

# Contract Routing Form

ROUTING: Routine

printed on: 01/23/2018

Contract between: Speedway Sand & Gravel, Inc.  
and Dept. or Division: Engineering Division  
Name/Phone Number:

Project: Monroe Street

Contract No.: 7974  
Enactment No.: RES-18-00056  
Dollar Amount: 18,650,753.41

File No.: 49946  
Enactment Date: 01/22/2018

(Please DATE before routing)

Signatures Required	Date Received	Date Signed
City Clerk	1-24-18	1-24-18
Director of Civil Rights	1.25.18	1.26.18 FNS
Risk Manager	1.26.18	1/29/18 RAN
Finance Director	01-29-2018	
City Attorney	1-30-18	1-31-2018
Mayor	01.31.2018	

Please return signed Contracts to the City Clerk's Office  
Room 103, City-County Building for filing.

Original + 2 Copies

01/23/2018 15:54:47 enjls - Jim Wolfe, 266-4099

Dis Rights: OK / N/A / Problem - Hold  
Prev Wage: AA / Agency / No  
Contract Value: 18,650,753.41  
AA Plan: Approved  
Amendment / Addendum #  
Type: POS / Dwp / Sbdv / Gov't /  
Grant / PW / Goal / Loan / Agrmt

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File #:	49946	Version: 1	Name:	Awarding Public Works Contract No. 7974, Monroe Street.
Type:	Resolution		Status:	Passed
File created:	12/22/2017		In control:	<u>BOARD OF PUBLIC WORKS</u>
On agenda:	1/16/2018		Final action:	1/16/2018
Enactment date:	1/22/2018		Enactment #:	RES-18-00056
Title:	Awarding Public Works Contract No. 7974, Monroe Street.			
Sponsors:	<u>BOARD OF PUBLIC WORKS</u>			
Attachments:	1. <u>Monroe Street Breakdown.pdf</u>			

[History \(3\)](#)[Text](#)**Fiscal Note**

The proposed resolution awards the contract for Monroe Street contingent upon adoption of the budget amendment per resolution #49974.

**Title**

Awarding Public Works Contract No. 7974, Monroe Street.

**Body**

**BE IT RESOLVED, that the awarding of Contract No. 7974, Monroe Street, will be contingent on the approval of a separate resolution by the Common Council to amend the 2018 Capital Budget in order to provide the necessary funding. In the event that the Common Council does not approve the budget amendment, the contract will not be awarded.**

BE IT RESOLVED, that the following low bids for miscellaneous improvements be accepted and that the Mayor and City Clerk be and are hereby authorized and directed to enter into a contract with the low bidders contained herein, subject to the Contractor's compliance with Section 39.02 of the Madison General Ordinances concerning compliance with the Affirmative Action provisions **and subject to the Contractor's compliance with Section 33.07 of the Madison General Ordinances regarding Best Value Contracting:**

BE IT FURTHER RESOLVED, that the funds be encumbered to cover the cost of the projects contained herein.

See attached document (Contract No. 7974) for itemization of bids.





## Jurisdiction: Wisconsin

## Demographics

**Company Name:** Fidelity and Deposit Company of Maryland**Short Name:****SBS Company Number:** 54219634**NAIC CoCode:** 39306**FEIN:** 13-3046577**Domicile Type:** Foreign**State of Domicile:** Maryland**Country of Domicile:** United States**NAIC Group Number:** 212 - ZURICH INS GRP**Organization Type:** Stock**Date of Incorporation:** 03/18/1969**Merger Flag:** No

## Address

**Business Address**1299 ZURICH WAY  
Schaumburg, IL 60196  
United States**Mailing Address**1299 ZURICH WAY  
Schaumburg, IL 60196  
United States**Statutory Home Office Address**600 Red Brook Blvd  
Owings Mills, MD 21117-5153  
United States**Main Administrative Office Address**1299 ZURICH WAY  
Schaumburg, IL 60196  
United States

## Phone, E-mail, Website

**Phone**

Type	Number
Business Primary Phone	(847) 605-6000
Business Toll Free Phone	(800) 382-2150
Mailing Primary Phone	(847) 605-6000
Mailing Toll Free Phone	(800) 382-2150
Statutory Home Office Primary Phone	(847) 605-6000
Statutory Home Office Toll Free Phone	(800) 382-2150
Main Admin Office Primary Phone	(847) 605-6000
Main Admin Office Toll Free Phone	(800) 382-2150

## Company Type

**Company Type:** Property and Casualty**Status:** Active**Status Reason:****Status Date:** 01/01/1982**Effective Date:** 01/01/1982**Legacy State ID:** 111700**Issue Date:** 01/01/1982**Approval Date:****File Date:****Articles of Incorporation Received:** No**Article No:****COA Number:**

## Appointments

 mosca

Licensee Name	License Number	NPN	License Type	Line of Authority	Appointment Date	Effective Date	Expiration Date
ELIZABETH MOSCA	12305256	12305256	Intermediary (Agent) Individual	Casualty	02/03/2016	03/01/2017	02/28/2018
ELIZABETH MOSCA	12305256	12305256	Intermediary (Agent) Individual	Property	02/03/2016	03/01/2017	02/28/2018

First	Previous	1	Next	Last
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## Line Of Business

Line of Business	Citation Type	Effective Date
Aircraft	Aircraft	01/01/1982
Automobile	Automobile	01/01/1982
Credit Insurance	Credit Insurance	01/01/1982
Fidelity Insurance	Fidelity Insurance	01/01/1982
Fire, Inland Marine and Other Property Insurance	Fire, Inland Marine and Other Property Insurance	01/01/1982
Liability and Incidental Medical Expense Insurance (other than automobile)	Liability and Incidental Medical Expense Insurance (other than automobile)	01/01/1982
Miscellaneous	Miscellaneous	01/01/1982
Ocean Marine Insurance	Ocean Marine Insurance	01/01/1982
Surety Insurance	Surety Insurance	01/01/1982
Workers Compensation Insurance	Workers Compensation Insurance	01/01/1982

First Previous 1 Next Last

## Contact

Q Filter

Contact Type	Preferred Name	Name	E-mail	Phone	Address
Registered Agent for Service of Process		*			<b>Other</b> CORPORATION SERVICE COMPANY 8040 EXCELSIOR DR STE 400 MADISON, WI 53717 United States

First Previous 1 Next Last

## Company Merger

No results found.

## Name Change History

Q Filter

First	Previous	1	Next	Last

Contract No. 7974  
Monroe Street

Speedway Sand & Gravel, Inc.

\$18,650,753.41

STREET ACCOUNT: 10251-402-170	\$6,919,321.75
Contingency 8%+/-	<u>\$553,545.74</u>
Sub Total	\$7,472,867.49
STREET STORM ACCOUNT: 10251-402-174	\$694,430.83
Contingency 8%+/-	<u>\$55,554.47</u>
Sub Total	\$749,985.30
STORM ACCOUNT: 10251-84-174	\$1,753,796.33
Contingency 8%+/-	<u>\$140,303.71</u>
Sub Total	\$1,894,100.04
STORMWATER QUALITY ACCOUNT: 10331-84-174-84600	\$288,913.50
Contingency 8%+/-	<u>\$23,113.08</u>
Sub Total	\$312,026.58
SANITARY ACCOUNT: 10251-83-173	\$4,422,101.50
Contingency 8%+/-	<u>\$353,768.12</u>
Sub Total	\$4,775,869.62
WATER ACCOUNT: 10251-86-179	\$3,595,107.00
Contingency 8%+/-	<u>\$287,608.56</u>
Sub Total	\$3,882,715.56
SIGNAL ACCOUNT: 10251-402-176	\$382,295.00
Contingency 8%+/-	<u>\$30,583.60</u>
Sub Total	\$412,878.60
LIGHTING ACCOUNT: 10251-402-177	\$570,255.00
Contingency 8%+/-	<u>\$45,620.40</u>
Sub Total	\$615,875.40
PARKING ACCOUNT: 82300579-54330-00000	\$24,532.50
Contingency 8%+/-	<u>\$1,962.60</u>
Sub Total	\$26,495.10
Grand Total	\$20,142,813.68



# City of Madison

City of Madison  
Madison, WI 53703  
www.cityofmadison.com

## Legislation Details (With Text)

**File #:** 49974      **Version:** 1      **Name:** Amending the 2018 Adopted Capital Budgets of Engineering-Major Streets, Sewer Utility, Stormwater Utility and Water Utility for the Monroe Street project.

**Type:** Resolution      **Status:** Passed

**File created:** 12/27/2017      **In control:** FINANCE COMMITTEE

**On agenda:** 1/16/2018      **Final action:** 1/16/2018

**Enactment date:** 1/22/2018      **Enactment #:** RES-18-00088

**Title:** Amending the 2018 Adopted Capital Budgets of Engineering-Major Streets, Sewer Utility, Stormwater Utility and Water Utility for the Monroe Street project. (13th AD)

**Sponsors:** Paul R. Soglin, Sara Eskrich, Paul E. Skidmore

### Indexes:

### Code sections:

**Attachments:** 1. Leg 49974 BY TITLE ONLY.pdf, 2. Monroe Street FAQ .pdf, 3. monroe budget amendment reso info.pdf

Date	Ver.	Action By	Action	Result
1/16/2018	1	COMMON COUNCIL	Adopt - 15 Votes Required	Pass
1/8/2018	1	FINANCE COMMITTEE		
1/2/2018	1	COMMON COUNCIL	Refer	Pass
12/27/2017	1	Engineering Division	Referred for Introduction	

The proposed resolution amends the Stormwater Utility's adopted 2018 capital budget to appropriate an additional \$1,478,000 of GO Borrowing for the Monroe Street project. The debt service repayment of the appropriated borrowing will be assigned to the Stormwater Utility.

10251-84-174 \$1,401,000

10331-84-174-84600 \$77,000

The proposed resolution amends the Sewer Utility's adopted 2018 capital budget to transfer \$884,000 of existing revenue bond authority from the Rural to Urban major.

10251-83-173 \$884,000

11542-83-173 (\$884,000)

The proposed resolution also amends the 2018 adopted Capital Budgets of Engineering-Major Streets, Sewer Utility and Stormwater Utility with increases in special assessment revenue budget authority to match the expected final assessment amounts for the completed project.

The Engineering-Major Streets adopted capital budget will be amended to increase special assessment revenue authority by \$625,100.

10251-402-170 \$625,100

The Sewer Utility adopted capital budget will be amended to increase special assessment revenue authority

by \$160,000.

10251-83-173 \$160,000

The Stormwater Utility adopted capital budget will be amended to increase special assessment revenue authority by \$37,000.

10251-84-174 \$37,700

Amending the 2018 Adopted Capital Budgets of Engineering-Major Streets, Sewer Utility, Stormwater Utility and Water Utility for the Monroe Street project. (13th AD)

The current authorized budget for this project is \$17.7 million (MUNIS project 10251). The estimated total project cost is \$22.4 million, or a difference of \$4.7 million. The difference is due to higher than expected bids prices and underestimated project costs and special assessments.

Three bids were received for the public works contract. The bids were reviewed and it was determined that rebidding this project would likely not result in lower costs and would delay completion of the project.

The proposed additional funding for the project consists of:

New appropriation, Stormwater Utility: \$1,478,000

Reallocate existing appropriation, Sewer Utility: \$884,000

Reallocate existing appropriation, Water Utility: \$1,563,000

Special assessment revenue authority, Engineering-Major Streets: \$625,000

Special assessment revenue authority, Sewer Utility: \$160,000

Special assessment revenue authority, Stormwater Utility: \$37,000

Total: \$4,747,000

The Stormwater Utility Budget will require new funds in order to proceed with the Monroe Street project.

The Sewer Utility has available funding which was not used in 2017 that can be transferred to the Monroe Street project.

The Water Utility has available funding in its 2018 Budget that can be allocated to the Monroe Street project. Other projects scheduled for 2018 will be delayed to 2019 in order to fund this project.

At the time of Capital Budget submittals, budgeted special assessment amounts are estimates that precede the full project design. Final design and calculation of special assessments have been completed and previously approved by the Common Council. Assessments will be in excess of the original budgeted assessment funding. Sufficient budget authority must exist within the project in order for that revenue to be allocated to the project. Special Assessment budgets will be increased accordingly. No increase in special assessments to individual property owners will be required.

Deferring the undergrounding of overhead utilities provides needed funds for the roadway reconstruction. The proposed project will include installation of conduit only. No increase in general fund supported General Obligation borrowing will be required for the project.



NOW, THEREFORE, BE IT RESOLVED that the adopted 2018 Stormwater Utility budget is amended to appropriate \$1,478,000 of GO borrowing for the Monroe Street project AND

BE IT FURTHER RESOLVED that the adopted 2018 Sewer Utility Capital Budget is amended to transfer \$884,000 of budget authority, AND

BE IT FURTHER RESOLVED that the adopted 2018 Capital Budgets of Engineering-Major Streets, Sewer Utility and Stormwater Utility be amended to increase special assessment revenue authority to match final expected assessment amounts.

\$18,650,753.41  
ORIGINAL

BID OF SPEEDWAY SAND & GRAVEL, INC.

2018

PROPOSAL, CONTRACT, BOND AND SPECIFICATIONS

FOR

MONROE STREET

CONTRACT NO. 7974

PROJECT NO. 53W1720

MUNIS NO. 10251

IN

MADISON, DANE COUNTY, WISCONSIN

AWARDED BY THE COMMON COUNCIL  
MADISON, WISCONSIN ON JANUARY 16, 2018

CITY ENGINEERING DIVISION  
1600 EMIL STREET  
MADISON, WISCONSIN 53713

<https://bidexpress.com/login>

**MONROE STREET  
CONTRACT NO. 7974**

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This Proposal, and Agreement have  
been prepared by:

**CITY ENGINEERING DIVISION  
CITY OF MADISON  
MADISON, DANE COUNTY, WISCONSIN**



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Robert F. Phillips, P.E., City Engineer

RFP: jw

## SECTION A: ADVERTISEMENT FOR BIDS AND INSTRUCTIONS TO BIDDERS

### REQUEST FOR BID FOR PUBLIC WORKS CONSTRUCTION CITY OF MADISON, WISCONSIN

#### A BEST VALUE CONTRACTING MUNICIPALITY

PROJECT NAME:	MONROE STREET
CONTRACT NO.:	7974
SBE GOAL	10%
BID BOND	5%
SBE PRE BID MEETING (1:00 P.M.)	DECEMBER 8, 2017
PRE-BID MEETING (FOLLOWING SBE PRE-BID MEETING)	DECEMBER 8, 2017
PREQUALIFICATION APPLICATION DUE (1:00 P.M.)	DECEMBER 14, 2017
BID SUBMISSION (1:00 P.M.)	DECEMBER 21, 2017
BID OPEN (1:30 P.M.)	DECEMBER 21, 2017
PUBLISHED IN WSJ	DECEMBER 1, 8 & 15, 2017

SBE PRE BID MEETING: Representatives of the Affirmative Action Department will be present to discuss the Small Business Enterprise requirements at 1600 Emil Street, Madison Wisconsin.

PRE-BID MEETING: A Pre-Bid Meeting will be held on December 8, 2017, at the conclusion of the SBE Pre-Bid Meeting. City Staff will be on hand to answer bidder questions and clarifications. Notes from this question and answer session will be taken and posted as an informational item with the bidding documents.

PREQUALIFICATION APPLICATION: Forms are available on our website, [www.cityofmadison.com/business/pw/forms.cfm](http://www.cityofmadison.com/business/pw/forms.cfm). If not currently prequalified in the categories listed in Section A, an amendment to your Prequalification will need to be submitted prior to the same due date. Postmark is not applicable.

BIDS TO BE SUBMITTED by hand to 1600 EMIL ST., MADISON, WI 53713 or online at [www.bidexpress.com](http://www.bidexpress.com).

THE BID OPENING is at 1600 EMIL ST., MADISON, WI 53713.

#### STANDARD SPECIFICATIONS

The City of Madison's Standard Specifications for Public Works Construction - 2017 Edition, as supplemented and amended from time to time, forms a part of these contract documents as if attached hereto.

These standard specifications are available on the City of Madison Public Works website, [www.cityofmadison.com/Business/PW/specs.cfm](http://www.cityofmadison.com/Business/PW/specs.cfm).

The Contractor shall review these Specifications prior to preparation of proposals for the work to be done under this contract, with specific attention to Article 102, "BIDDING REQUIREMENTS AND CONDITIONS" and Article 103, "AWARD AND EXECUTION OF THE CONTRACT." For the convenience of the bidder, below are highlights of three subsections of the specifications.

#### SECTION 102.1: PRE-QUALIFICATION OF BIDDERS

In accordance with Wisconsin State Statutes 66.0901 (2) and (3), all bidders must submit to the Board of Public Works proof of responsibility on forms furnished by the City. The City requires that all bidders be qualified on a biennial basis.

Bidders must present satisfactory evidence that they have been regularly engaged in the type of work specified herein and they are fully prepared with necessary capital, materials, machinery and supervisory personnel to conduct the work to be contracted for to the satisfaction of the City. All bidders must be pre-qualified by the Board of Public Works for the type of construction on which they are bidding prior to the opening of the bid.

In accordance with Section 39.02(9)(a)l. of the General Ordinances, all bidders shall submit in writing to the Affirmative Action Division Manager of the City of Madison, a Certificate of Compliance or an Affirmative Action Plan at the same time or prior to the submission of the proof of responsibility forms.

The bidder shall be disqualified if the bidder fails to or refuses to, prior to opening of the bid, submit a Certificate of compliance, Affirmative Action Plan or Affirmative Action Data Update, as applicable, as defined by Section 39.02 of the General Ordinances (entitled Affirmative Action) and as required by Section 102.11 of the Standard Specifications.

#### SECTION 102.4 PROPOSAL

No bid will be accepted that does not contain an adequate or reasonable price for each and every item named in the Schedule of Unit Prices.

A lump sum bid for the work in accordance with the plans and specifications is required. The lump sum bid must be the same as the total amounts bid for the various items and it shall be inserted in the space provided.

All papers bound with or attached to the proposal form are considered a part thereof and must not be detached or altered when the proposal is submitted. The plans, specifications and other documents designated in the proposal form will be considered a part of the proposal whether attached or not.

A proposal submitted by an individual shall be signed by the bidder or by a duly authorized agent. A proposal submitted by a partnership shall be signed by a member/partner or by a duly authorized agent thereof. A proposal submitted by a corporation shall be signed by an authorized officer or duly authorized registered agent of such corporation, and the proposal shall show the name of the State under the laws of which such corporation was chartered. The required signatures shall in all cases appear in the space provided thereof on the proposal.

Each proposal shall be placed, together with the proposal guaranty, in a sealed envelope, so marked as to indicate name of project, the contract number or option to which it applies, and the name and address of the Contractor or submitted electronically through Bid Express ([www.bidexpress.com](http://www.bidexpress.com)). Proposals will be accepted at the location, the time and the date designated in the advertisement. Proposals received after the time and date designated will be returned to the bidder unopened.

#### SECTION 102.5: BID DEPOSIT (PROPOSAL GUARANTY)

All bids, sealed or electronic, must be accompanied with a Bid Bond equal to at least 5% of the bid or a Certificate of Annual/Biennial Bid Bond or certified check, payable to the City Treasurer. Bid deposit of the successful bidders shall be returned within forty-eight (48) hours following execution of the contract and bond as required.

#### MINOR DISCREPANCIES

Bidder is responsible for submitting all forms necessary for the City to determine compliance with State and City bidding requirements. Notwithstanding any language to the contrary contained herein, the City may exercise its discretion to allow bidders to correct or supplement submissions after bid opening, if the minor discrepancy, bid irregularity or omission is insignificant and not one related to price, quality, quantity, time of completion or performance of the contract.

**Bidders for this Contract(s) must be Pre-Qualified for at least one of the following type(s) of construction denoted by an ☒**

**Building Demolition**

- 101 ☐ Asbestos Removal  
120 ☐ House Mover

- 110 ☐ Building Demolition

**Street, Utility and Site Construction**

- 201 ☐ Asphalt Paving  
205 ☐ Blasting  
210 ☐ Boring/Pipe Jacking  
215 ☐ Concrete Paving  
220 ☐ Con. Sidewalk/Curb & Gutter/Misc. Flat Work  
221 ☐ Concrete Bases and Other Concrete Work  
222 ☐ Concrete Removal  
225 ☐ Dredging  
230 ☐ Fencing  
235 ☐ Fiber Optic Cable/Conduit Installation  
240 ☐ Grading and Earthwork  
241 ☐ Horizontal Saw Cutting of Sidewalk  
242 ☐ Infrared Seamless Patching  
245 ☐ Landscaping, Maintenance  
246 ☐ Ecological Restoration  
250 ☐ Landscaping, Site and Street  
251 ☐ Parking Ramp Maintenance  
252 ☐ Pavement Marking  
255 ☐ Pavement Sealcoating and Crack Sealing  
260 ☐ Petroleum Above/Below Ground Storage Tank Removal/Installation  
262 ☐ Playground Installer

- 265 ☐ Retaining Walls, Precast Modular Units  
270 ☐ Retaining Walls, Reinforced Concrete  
275 ☒ Sanitary, Storm Sewer and Water Main Construction  
276 ☐ Sawcutting  
280 ☐ Sewer Lateral Drain Cleaning/Internal TV Insp.  
285 ☐ Sewer Lining  
290 ☐ Sewer Pipe Bursting  
295 ☐ Soil Borings  
300 ☐ Soil Nailing  
305 ☐ Storm & Sanitary Sewer Laterals & Water Svc.  
310 ☒ Street Construction  
315 ☐ Street Lighting  
318 ☐ Tennis Court Resurfacing  
320 ☐ Traffic Signals  
325 ☐ Traffic Signing & Marking  
332 ☐ Tree pruning/removal  
333 ☐ Tree, pesticide treatment of  
335 ☐ Trucking  
340 ☐ Utility Transmission Lines including Natural Gas, Electrical & Communications  
399 ☐ Other \_\_\_\_\_

**Bridge Construction**

- 501 ☐ Bridge Construction and/or Repair

**Building Construction**

- 401 ☐ Floor Covering (including carpet, ceramic tile installation, rubber, VCT)  
402 ☐ Building Automation Systems  
403 ☐ Concrete  
404 ☐ Doors and Windows  
405 ☐ Electrical - Power, Lighting & Communications  
410 ☐ Elevator - Lifts  
412 ☐ Fire Suppression  
413 ☐ Furnishings - Furniture and Window Treatments  
415 ☐ General Building Construction, Equal or Less than \$250,000  
420 ☐ General Building Construction, \$250,000 to \$1,500,000  
425 ☐ General Building Construction, Over \$1,500,000  
428 ☐ Glass and/or Glazing  
429 ☐ Hazardous Material Removal  
430 ☐ Heating, Ventilating and Air Conditioning (HVAC)  
433 ☐ Insulation - Thermal  
435 ☐ Masonry/Tuck pointing

- 437 ☐ Metals  
440 ☐ Painting and Wallcovering  
445 ☐ Plumbing  
450 ☐ Pump Repair  
455 ☐ Pump Systems  
460 ☐ Roofing and Moisture Protection  
464 ☐ Tower Crane Operator  
461 ☐ Solar Photovoltaic/Hot Water Systems  
465 ☐ Soil/Groundwater Remediation  
466 ☐ Warning Sirens  
470 ☐ Water Supply Elevated Tanks  
475 ☐ Water Supply Wells  
480 ☐ Wood, Plastics & Composites - Structural & Architectural  
499 ☐ Other \_\_\_\_\_

**State of Wisconsin Certifications**

- 1 ☐ Class 5 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for quarries, open pits and road cuts.  
2 ☐ Class 6 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for trenches, site excavations, basements, underwater demolition, underground excavations, or structures 15 feet or less in height.  
3 ☐ Class 7 Blaster - Blasting Operations and Activities for structures greater than 15' in height, bridges, towers, and any of the objects or purposes listed as "Class 5 Blaster or Class 6 Blaster".  
4 ☐ Petroleum Above/Below Ground Storage Tank Removal and Installation (Attach copies of State Certifications.)  
5 ☐ Hazardous Material Removal (Contractor to be certified for asbestos and lead abatement per the Wisconsin Department of Health Services, Asbestos and Lead Section (A&LS).) See the following link for application: [www.dhs.wisconsin.gov/Asbestos/Cert](http://www.dhs.wisconsin.gov/Asbestos/Cert). State of Wisconsin Performance of Asbestos Abatement Certificate must be attached.  
6 ☐ Certification number as a Certified Arborist or Certified Tree Worker as administered by the International Society of Arboriculture  
7 ☐ Pesticide application (Certification for Commercial Applicator For Hire with the certification in the category of turf and landscape (3.0) and possess a current license issued by the DATCP)  
8 ☐ State of Wisconsin Master Plumbers License.

## SECTION B: PROPOSAL

Please refer to the  
Bid Express Website  
at <https://bidexpress.com>  
look up contract number  
and go to  
Section B: Proposal Page

You can access all City of Madison bid solicitations for FREE at [www.bidexpress.com](http://www.bidexpress.com)

Click on the "Register for Free" button and follow the instructions to register your company and yourself. You will be asked for a payment subscription preference, since you may wish to bid online someday. Simply choose the method to pay on a 'per bid' basis. This requires no payment until / unless you actually bid online. You can also choose the monthly subscription plan at this time. You will, however, be asked to provide payment information. Remember, you can change your preference at anytime. You will then be able to complete your free registration and have full access to the site. Your free access does not require completion of the 'Digital ID' process, so you will have instant access for viewing and downloading. To be prepared in case you ever do wish to bid online, you may wish to establish your digital ID also, since you cannot bid without a Digital ID.

If you have any problems with the free registration process, you can call the bidexpress help team, toll free at 1-888-352-2439 (option 1, option1).

## **SECTION C: SMALL BUSINESS ENTERPRISE**

### **Instructions to Bidders City of Madison SBE Program Information**

#### **2 Small Business Enterprise (SBE) Program Information**

##### **2.1 Policy and Goal**

The City of Madison reaffirms its policy of nondiscrimination in the conduct of City business by maintaining a procurement process which remains open to all who have the potential and ability to sell goods and services to the City. It is the policy of the City of Madison to allow Small Business Enterprises (SBE) maximum feasible opportunity to participate in City of Madison contracting. The bidder acknowledges that its bid has been submitted in accordance with the SBE program and is for the public's protection and welfare.

Please refer to the "ADVERTISEMENT FOR BIDS" for the goal for the utilization of SBEs on this project. SBEs may participate as subcontractors, vendors and/or suppliers, which provide a commercially useful function. The dollar value for SBE suppliers or 'materials only' vendors shall be discounted to 60% for purposes of meeting SBE goals.

A bidder which achieves or exceeds the SBE goal will be in compliance with the SBE requirements of this project. In the event that the bidder is unable to achieve the SBE goal, the bidder must demonstrate that a good faith effort to do so was made. Failure to either achieve the goal or demonstrate a good faith effort to do so will be grounds for the bidder being deemed a non-responsible contractor ineligible for award of this contract.

A bidder may count towards its attainment of the SBE goal only those expenditures to SBEs that perform a commercially useful function. For purposes of evaluating a bidder's responsiveness to the attainment of the SBE goal, the contract participation by an SBE is based on the percentage of the total base bid proposed by the Contractor. The total base bid price is inclusive of all addenda.

Work performed by an SBE firm in a particular transaction can be counted toward the goal only if it involves a commercially useful function. That is, in light of industry practices and other relevant considerations, does the SBE firm have a necessary and useful role in the transaction, of a kind for which there is a market outside the context of the SBE Program, or is the firm's role a superfluous step added in an attempt to obtain credit towards goals? If, in the judgment of the Affirmative Action Division, the SBE firm will not perform a commercially useful function in the transaction, no credit towards goals will be awarded.

The question of whether a firm is performing a commercially useful function is completely separate from the question of whether the firm is an eligible SBE. A firm is eligible if it meets the definitional criteria and ownership and control requirements, as set forth in the City of Madison's SBE Program.

If the City of Madison determines that the SBE firm is performing a commercially useful function, then the City of Madison must then decide what that function is. If the commercially useful function is that of an SBE vendor / supplier that regularly transacts business with the respective product, then the City of Madison will count 60% of the value of the product supplied toward SBE goals.



To be counted, the SBE vendor / supplier must be engaged in selling the product in question to the public. This is important in distinguishing an SBE vendor / supplier, which has a regular trade with a variety of customers, from a firm which performs supplier-like functions on an ad hoc basis or for only one or two contractors with whom it has a special relationship.

A supplier of bulk goods may qualify as an eligible SBE vendor / supplier if it either maintains an inventory or owns or operates distribution equipment. With respect to the distribution equipment; e.g., a fleet of trucks, the term "operates" is intended to cover a situation in which the supplier leases the equipment on a regular basis for its entire business. It is not intended to cover a situation in which the firm simply provides drivers for trucks owned or leased by another party; e.g., a prime contractor, or leases such a party's trucks on an ad hoc basis for a specific job.

If the commercially useful function being performed is not that of a qualified SBE vendor / supplier, but rather that of delivery of products, obtaining bonding or insurance, procurement of personnel, acting as a broker or manufacturer's representative in the procurement of supplies, facilities, or materials, etc., only the fees or commissions will apply towards the goal.

For example, a business that simply transfers title of a product from manufacturer to ultimate purchaser; e. g., a sales representative who re-invoices a steel product from the steel company to the Contractor, or a firm that puts a product into a container for delivery would not be considered a qualified SBE vendor / supplier. The Contractor would not receive credit based on a percentage of the cost of the product for working with such firms.

Concerning the use of services that help the Contractor obtain needed supplies, personnel, materials or equipment to perform a contract: only the fee received by the service provider will be counted toward the goal. For example, use of a SBE sales representative or distributor for a steel company, if performing a commercially useful function at all, would entitle the Contractor receiving the steel to count only the fee paid to the representative or distributor toward the goal. This provision would also govern fees for professional and other services obtained expressly and solely to perform work relating to a specific contract.

Concerning transportation or delivery services: if an SBE trucking company picks up a product from a manufacturer or a qualified vendor / supplier and delivers the product to the Contractor, the commercially useful function it is performing is not that of a supplier, but simply that of a transporter of goods. Unless the trucking company is itself the manufacturer or a qualified vendor / supplier in the product, credit cannot be given based on a percentage of the cost of the product. Rather, credit would be allowed for the cost of the transportation service.

The City is aware that the rule's language does not explicitly mention every kind of business that may contribute work on this project. In administering these programs, the City would, on a case-by-case basis, determine the appropriate counting formula to apply in a particular situation.

## **2.2 Contract Compliance**

Questions concerning the SBE Program shall be directed to the Contract Compliance Officer of the City of Madison Department of Civil Rights, Affirmative Action Division, 210 Martin Luther King, Jr. Blvd., Room 523, Madison, WI 53703; telephone (608) 266-4910.

## 2.3 Certification of SBE by City of Madison

The Affirmative Action Division maintains a directory of SBEs which are currently certified as such by the City of Madison. Contact the Contract Compliance Officer as indicated in Section 2.2 to receive a copy of the SBE Directory or you may access the SBE Directory online at [www.cityofmadison.com/dcr/aaTBDDir.cfm](http://www.cityofmadison.com/dcr/aaTBDDir.cfm).

All contractors, subcontractors, vendors and suppliers seeking SBE status must complete and submit the **Targeted Business Certification Application** to the City of Madison Affirmative Action Division by the time and date established for receipt of bids. A copy of the Targeted Business Certification Application is available by contacting the Contract Compliance Officer at the address and telephone indicated in Section 2.2 or you may access the Targeted Business Certification Application online at [www.cityofmadison.com/dcr/aaTBDDir.cfm](http://www.cityofmadison.com/dcr/aaTBDDir.cfm). Submittal of the Targeted Business Certification Application by the time specified does not guarantee that the applicant will be certified as a SBE eligible to be utilized towards meeting the SBE goal for this project.

## 2.4 Small Business Enterprise Compliance Report

### 2.4.1 Good Faith Efforts

Bidders shall take all necessary affirmative steps to assure that SBEs are utilized when possible and that the established SBE goal for this project is achieved. A contractor who self performs a portion of the work, and is pre-qualified to perform that category of work, may subcontract that portion of the work, but shall not be required to do so. When a bidder is unable to achieve the established SBE goal, the bidder must demonstrate that a good faith effort to do so was made. Such a good faith effort should include the following:

- 2.4.1.1 Attendance at the pre-bid meeting.
- 2.4.1.2 Using the City of Madison's directory of certified SBEs to identify SBEs from which to solicit bids.
- 2.4.1.3 Assuring that SBEs are solicited whenever they are potential sources.
- 2.4.1.4 Referring prospective SBEs to the City of Madison Affirmative Action Division for certification.
- 2.4.1.5 Dividing total project requirements into smaller tasks and/or quantities, where economically feasible, to permit maximum feasible SBE participation.
- 2.4.1.6 Establishing delivery schedules, where requirements permit, which will encourage participation by SBEs.
- 2.4.1.7 Providing SBEs with specific information regarding the work to be performed.
- 2.4.1.8 Contacting SBEs in advance of the deadline to allow such businesses sufficient time to prepare a bid.
- 2.4.1.9 Utilizing the bid of a qualified and competent SBE when the bid of such a business is deemed reasonable (i.e. 5% above the lowest bidder), although not necessarily low.
- 2.4.1.10 Contacting SBEs which submit a bid, to inquire about the details of the bid and confirm that the scope of the work was interpreted as intended.
- 2.4.1.11 Completion of Cover Page (page C-6), Summary Sheet (page C-7) and SBE Contact Reports (pages C-8 and C9) if applicable.

## 2.4.2 Reporting SBE Utilization and Good Faith Efforts

The Small Business Enterprise Compliance Report is to be submitted by the bidder with the bid. This report is due by the specified bid closing time and date. Bids submitted without a completed SBE Compliance Report as outlined below may be deemed non-responsible and the bidder ineligible for award of this contract. Notwithstanding any language to the contrary contained herein, the City may exercise its discretion to allow bidders to correct or supplement submissions after bid opening, if the minor discrepancy, bid irregularity or omission is insignificant and not one related to price, quality, quantity, time of completion, performance of the contract, or percentage of SBE utilization.

2.4.2.1 If the Bidder meets or exceeds the goal established for SBE utilization, the Small Business Enterprise Compliance Report shall consist of the following:

- 2.4.2.1.1 **Cover Page**, Page C-6; and
- 2.4.2.1.2 **Summary Sheet**, C-7.

2.4.2.2 If the bidder does not meet the goal established for SBE utilization, the Small Business Enterprise Compliance Report shall consist of the following:

- 2.4.2.2.1 **Cover Page**, Page C-6;
- 2.4.2.2.2 **Summary Sheet**, C-7; and
- 2.4.2.2.3 **SBE Contact Report**, C-8 and C-9. (A separate Contact Report must be completed for each applicable SBE which is not utilized.)

## 2.5 Appeal Procedure

A bidder which does not achieve the established goal and is found non-responsible for failure to demonstrate a good faith effort to achieve such goal and subsequently denied eligibility for award of contract may appeal that decision to the Small Business Enterprises Appeals Committee. All appeals shall be made in writing, and shall be delivered to and received by the City Engineer no later than 4:30 PM on the third business day following the bidder's receipt of the written notification of ineligibility by the Affirmative Action Division Manager. Postmark not acceptable. The notice of appeal shall state the basis for the appeal of the decision of the Affirmative Action Division Manager. The Appeal shall take place in accordance with Madison General Ordinance 33.54.

## 2.6 SBE Requirements After Award of the Contract

The successful bidder shall identify SBE subcontractors, suppliers and vendors on the subcontractor list in accordance with the specifications. The Contractor shall submit a detailed explanation of any variances between the listing of SBE subcontractors, vendors and/or suppliers on the subcontractor list and the Contractor's SBE Compliance Report for SBE participation.

No change in SBE subcontractors, vendors and/or suppliers from those SBEs indicated in the SBE Compliance Report will be allowed without prior approval from the Engineer and the Affirmative Action Division. The contractor shall submit in writing to the City of Madison Affirmative Action Division a request to change any SBE citing specific reasons which necessitate such a change. The Affirmative Action Division will use a general test of reasonableness in approving or rejecting the contractor's request for change. If the request is approved, the Contractor will make every effort to utilize another SBE if available.

The City will monitor the project to ensure that the actual percentage commitment to SBE firms is carried out.

## **2.7 SBE Definition and Eligibility Guidelines**

A Small Business Enterprise is a business concern awarded certification by the City of Madison. For the purposes of this program a Small Business Enterprise is defined as:

- A. An independent business operated under a single management. The business may not be a subsidiary of any other business and the stock or ownership may not be held by any individual or any business operating in the same or a similar field. In determining whether an entity qualifies as a SBE, the City shall consider all factors relevant to being an independent business including, but not limited to, the date the business was established, adequacy of its resources for the work in which it proposes to involve itself, the degree to which financial, equipment leasing and other relationships exist with other ineligible firms in the same or similar lines of work. SBE owner(s) shall enjoy the customary incidents of ownership and shall share in the risks and profits commensurate with their enjoyment interests, as demonstrated by an examination of the substance rather than form or arrangements that may be reflected in its ownership documents.
- B. A business that has averaged no more than \$4.0 million in annual gross receipts over the prior three year period and the principal owner(s) do not have a personal net worth in excess of \$1.32 million.

Firm and/or individuals that submit fraudulent documents/testimony may be barred from doing business with the City and/or forfeit existing contracts.

SBE certification is valid for one (1) year unless revoked.

## **SECTION D: SPECIAL PROVISIONS**

### **MONROE STREET CONTRACT NO. 7974**

It is the intent of these Special Provisions to set forth the final contractual intent as to the matter involved and shall prevail over the Standard Specifications and plans whenever in conflict therewith. In order that comparisons between the Special Provisions can be readily made, the numbering system for the Special Provisions is equivalent to that of the Specifications.

Whenever in these Specifications the term "Standard Specifications" appears, it shall be taken to refer to the City of Madison Standard Specifications for Public Works Construction and Supplements thereto.

#### **SECTION 102.12      BEST VALUE CONTRACTING**

This Contract shall be considered a Best Value Contract if the Contractor's bid is equal to or greater than \$59,000 for a single trade contract; or equal to or greater than \$288,000 for a multi-trade contract pursuant to MGO 33.07(7).

#### **SECTION 110.2      PARTIAL PAYMENTS**

The City reserves the right to pay the Contractor with checks that are made payable to the Contractor and one or more subcontractors. In addition, pursuant to the requirements of Wis. Stat. Sec. 779.15, the City may also directly pay a subcontractor to satisfy a valid public improvement lien.

#### **ARTICLE 104      SCOPE OF WORK**

The work under this contract shall include, but is not limited to, installation of water main and services, sanitary sewer main and laterals, storm sewer structures and pipes, curb and gutter, base preparation, asphalt pavement, concrete pavement, traffic signals and lighting, sidewalk, bioretention and landscape improvements.

The project limits for the work are on Monroe Street from Nakoma/Odana to Regent St., including work up side streets, namely Nakoma Rd, Odana Rd., Glenway St, Commonwealth Ave., Spooner St., and Breese Terrace. The project is approximately 10,200 ft. in length.

The Contractor shall view the site prior to bidding to become familiar with the existing conditions. It will be the responsibility of the Contractor to work with the utilities located in the right of way to resolve conflicts during the construction process.

#### **SECTION 104.4      INCREASED OR DECREASED QUANTITIES**

The Contractor shall note that some bid item quantities may increase or decrease based on what is encountered in the field. If the actual field conditions vary from the plan quantity, no additional compensation shall be given for increasing or decreasing quantities. Any overruns shall be paid for under the appropriate bid item(s) without any penalty or change to the bid price for the associated bid item. The Contractor shall not be reimbursed for any deletions to the contract. No change to the unit bid price will be allowed for changes to the quantities.

The Contractor shall note that the bid items for sidewalk and curb removal and replacement may increase or decrease based on what is encountered in the field, especially as it relates to utility service replacement. Sidewalk quantities may also be reduced, depending on the status of redevelopment project(s). See the Cooperation By the Contractor Section.

The electrical quantities include estimates for work that may or may not be required. If actual quantities are less than estimated, or if items are deleted from the contractor's work, the decreased quantities or deleted items shall not constitute the basis for a claim for damages for anticipated profits for the work dispensed with.

The final design for the mosaic wall along Regent St. may be revised. What is included in the plans at the time of bidding the largest version of the wall, so any revisions will be to reduce the height of the wall in certain locations, which may include additional wall height taper(s).

#### **SECTION 104.10      CLEANING UP**

Excess concrete from finishing operations and from spillage on adjacent sidewalk and curb & gutter shall be removed immediately. Excess concrete or mortar from the finishing operation and spillage into SASs and inlets shall be removed immediately.

#### **SECTION 105.12      COOPERATION BY THE CONTRACTOR**

It is anticipated that the Contractor will need to use multiple crews and work on weekends in order to complete the work under this contract within contract duration. It is also expected that all items of work, especially all concrete work and paving, will require multiple mobilizations to meet the requirements of the traffic control and coordination specifications.

Due to the early start date of this contract, it is possible that there could be snowfall after work has started. If there is a snowfall, it is the Contractor's responsibility to clear snow from the construction site, including all crosswalk areas, and no additional compensation will be given for snow removal. City Streets Division will clear snow from paved areas that are open to traffic.

The contractor shall coordinate with Madison Metro to remove bus shelters when necessary for construction. Provide a minimum of 1 week's notice prior to needing removal of the shelter.

If the Contractor prevents access to areas normally mowed by City Parks by either working in those areas, storing materials or equipment, or using areas adjacent to the area to be mowed for construction activities, it will be the Contractor's responsibility to mow these areas as necessary. Mowing as necessary or as directed by the Engineer will be considered incidental to the contract.

#### **Existing Items to Remain**

The Contractor shall use care around existing trees, plantings, walls, steps, railings, utilities and any other structures or amenities that are indicated on the plans to remain or not indicated specifically for removal. No trees, other than those shown on the plan to be removed, shall be cut without the approval of the Engineer and the City Forester; the abutting property owners shall be notified in accordance with the City's Administrative Procedure Memorandum No. 6-2 prior to any removal.

In the business areas, several properties have awnings that extend over the sidewalk. All awnings are to remain and the Contractor shall take care to not damage the awnings with equipment or with materials such as concrete or concrete curing compound.

The Contractor shall use care around existing storm sewer to remain. All costs to protect existing pipe and structures shall be incidental to construction. If storm sewer pipe or structures that are to remain are removed and replaced to complete portions of the work under this contract, all storm sewer work shall be included in the unit price for associated work. Protection of existing structures, which may include temporary plating or ramping with gravel or temporary pavement as necessary for traffic control shall be

considered incidental to the work being performed. All private storm sewer discharges shall be maintained for all properties in the project area.

The existing Traffic Engineering electrical and fiber optic must remain in service throughout the duration of the project. The electrical conduit crossings that are to be replaced must remain operational until temporary signals and/or lighting are installed and are operational. The Contractor shall also coordinate with Traffic Engineering for installation of final wiring, poles, fixtures, etc. Re-mobilization for final concrete work around temporary poles for temporary lighting and signals may be necessary and shall be considered incidental to the contract.

#### **Access to Properties**

The Contractor shall maintain pedestrian access to all properties within the project limits as set forth in Maintenance of Traffic. All means necessary to maintain this access shall be considered incidental. Temporary cross walks and temporary sidewalk shall be used as needed and required by the Engineer to maintain safe access through the project, and these will be paid under the appropriate bid items.

In order to limit access disruptions, all permanent mainline sidewalk shall be placed within 30 days of removal of the existing sidewalk.

There are a variety of property types within the limits of the project including commercial, single family residential, multi-family residential and schools. Maintain access for deliveries, including mail and business supplies; coordinate with business owners as necessary for delivery access. Maintain access for any private refuse collection.

Contractor is to coordinate with City of Madison Streets Division to ensure access for refuse collection and coordinate any changes in access to properties, including which side of the street the travel lane will be on. To allow for proper refuse collection, the Contractor may be required to relocate carts as necessary for collection. Coordination with City Streets Division is incidental to the contract.

#### **Coordination with Utilities**

This project will require close coordination with private utility companies. There are several existing utilities located within the project limits that are to remain. Several of these facilities are old and will require care when working near them, especially existing AT&T duct packages. The Contractor will be responsible for coordination and providing work space for any conflict resolution work that will need to be performed by the private utility companies. The existing manholes for several of the facilities within the project limits are large, and the approximate size of these structures is shown on the plans. The Contractor shall coordinate with utilities for structure adjustments.

The Contractor is also required to coordinate work with the private utilities for installation of new facilities. It is expected that this coordination will be necessary throughout the entire project, and this will require provide time and space for the utilities to complete their work, and this will need to be accounted for within each phase of the traffic control plan.

It is not expected that additional traffic control will need to be set up for the utilities to complete their work; however, the Contractor may need to coordinate the initial traffic control set-up with the utilities as they will likely have started work in advance of this contract. The Contractor shall coordinate with each utility on the timing for their work to take place and shall provide space necessary for each utility to complete their work. Please refer to the private utility detail sheet included in the plan set for more information (this plan is for reference only).

### *MG&E Electric*

There will be several pole replacements within the limits of the project. This will not only be to resolve conflicts with the proposed work in the plan, but MG&E has also scheduled maintenance pole replacements. Some, but not all of the pole replacements may be completed prior to construction. Coordinate with MG&E for access during the appropriate phases to perform the pole replacements.

Will install a new conduit package (3 ducts), not encased in concrete at various locations within the limits of the project. In each area where the new duct package will be installed, several hand holes and switch gear will also be included. It is expected that all work on this new duct package will be completed during work under this contract. This work is also being coordinated with Charter and TDS for joint trenching. It can be expected that multiple crews will be made available to complete this work, but each crew is expected to take approximately 2 weeks per block.

Between the Odana/Nakoma intersection and Lewis Ct., the duct package is to be installed within the pavement along the north side with crossings across the Odana and Nakoma legs of the intersection.

From Crandall to just east of Commonwealth, the new duct package is to be installed in the northerly lane of Monroe St., approximately 2'-5' off of the edge of gutter. Road crossings are also anticipated at Knickerbocker and Commonwealth.

From Leonard St. (Edgewood College driveway) to Breese Terrace and up Breese to Regent St., the new duct package is to be installed in the northerly lane of Monroe St., approximately 2'-3' off of the edge of gutter. Multiple road crossings are anticipated between Garfield and Oakland. Between Garfield & Breese, some work within the terrace/sidewalk on the south side is also expected.

MG&E Electric contact is Mark Bohm – 608-252-4730 or mbohm@mge.com

### *Charter Communications*

Charter will be installed ducts as part of a joint trench with MG&E, in all locations where MG&E plans to install new conduits. New pedestals & vaults/handholes will be installed along this route. Additionally, new crossings of Monroe St. will be necessary at Sprague and Edgewood Ave. at a minimum. Note that this work is being completed as part of a requested overhead to underground conversion. All Charter facilities need to be in place before the conversion can take place, so, if some concrete sidewalk work may need to be coordinated to be completed following conversion and potential wood pole removal.

Charter contact is Tom Payne – 608-288-6839 or tom.payne@charter.com

### *TDS*

TDS will be installing additional conduit within the joint trench with MG&E between Edgewood Ave. and Regent St.

TDS contact is Jerry Myers – 608-664-4404 or jerry.myers@tdstelecom.com

### *AT&T*

Will install 2 to 4 new conduits along their existing duct package on the south side of Monroe St. for the entire length of the project. AT&T will also be rebuilding 5 manholes. Each block of conduit installation will take approximately 1.5-2 weeks to complete, and each manhole replacement will take approximately 1.5-2 weeks to complete. It is expected that AT&T will begin work on their facilities in February, but any work not completed prior to the start of this contract will need to be coordinated during construction. It is expected that AT&T's contractor will make multiple crews available to complete this work.

AT&T contact is Carol Anason at 608-252-2385 or ca2624@att.com



#### *MG&E Gas*

Will install new gas main to serve properties on the south side of Monroe St. from Chapman to Woodrow and from Edgewood to Regent. Work will begin in January on the new gas main installation, and multiple crews will be made available to work on the installation. It is expected that work on new 2" mains will take approximately 1.5 weeks per block to install, and in locations with new 8" steel main it will take approximately 2-2.5 weeks per block to install. All work on the new gas mains will not be completed in advance of work under this contract, so work will need to be coordinated with MG&E gas.

In some areas, the new gas main will be installed in the alley, south of Monroe St. If this work is to take place during construction, the Contractor shall coordinate the work with MG&E to ensure that businesses and properties can still have access, especially for deliveries and refuse collection.

From Chapman to Commonwealth, a new 2" main will be installed approximately 5' off of the south side edge of gutter. From Commonwealth to Woodrow, the new 2" main is to be installed under the sidewalk.

From Edgewood Ave. to Van Buren St., it is planned to install the new gas main in the alley, south of Monroe St., and properties on that side of Monroe St. will then have their gas services off of the rear of the alley.

From Van Buren to Grant, the new 2" main is to be installed under the sidewalk on the south side. From Grant to Garfield, it is planned to install the new 2" main in the alley, south of Monroe St.

From Garfield to Oakland, a new 8" steel main is to be installed in the alley south of Monroe St. This work will need to be coordinated with the redevelopment as well. From Oakland to Regent a new 2" main will be installed in the alley.

Within several intersections windows will also need to be cut into the existing 8" Steel gas main on Monroe St. to accommodate storm crossings. This work will need to be coordinated during construction.

MG&E gas contact is Roger Ahels – 608-252-5682 or rahles@mge.com

#### **Coordination with Building & Parks Projects**

There are several known or anticipated redevelopment, building improvement, or park improvement projects adjacent to Monroe St. that will be taking place during the same time as this project. The Contractor shall coordinate access to the site with the building contractors and coordinate right-of-way occupancy as required.

The City of Madison will be restoring the shoreline along Lake Wingra, within Wingra Park. This work will be taking place in the early Spring, up to the end of May. The Contractor should anticipate additional use of Monroe St. for trucks to that project site, and, as indicated in the Maintenance of Traffic, either the intersection of Arbor Dr. or Knickerbocker and/or Pickford shall remain open at all times.

There is an ongoing redevelopment project taking place at 1603 Monroe St. (intersection with Oakland Ave.). The building contractor is expected to maintain their occupancy in the street until March 19. At that time, the occupancy will be reduced to the terrace & sidewalk area, in order to complete the building exterior, but, when utility work is not taking place along this frontage, the building contractor may extend their occupancy, when permitted by the Engineer. The building contractor will while provide space to install curb & gutter. It is the responsibility of the developer to install the sidewalk, and the contractor shall provide access and coordinate schedule for that work to be completed while remaining compliant with the Maintenance of Traffic specifications. Terrace restoration is included under this contract.

It is expected that the property at 1720 Monroe St. (existing Associated Bank site), will be undergoing a redevelopment in May of 2018. The redevelopment of that property will likely include occupancies in some capacity on Spooner St. and Stockton Ct. The sidewalk area on Monroe St. may also be occupied by the building contractor, but this occupancy wouldn't take place until all sidewalk work on the opposite side of Monroe St. is complete. As part of coordination with this project, the Contractor shall not install any storm sewer adjacent to this property until after the footing/foundation work is complete. It is expected that the foundation excavation and installation will be starting in May 2018. After installation of the curb & gutter, it is likely that the developer will take over occupancy of the terrace/sidewalk, so work in that area may be removed from the contract include electrical conduit and bases, and concrete sidewalk and terrace work. Note that it is not guaranteed that this development will move forward; plans represent work anticipated should the project not move forward.

It is also expected that there will be a building expansion project taking place at Hotel Red at 1501 Monroe St. During work under this contract, the work on the building will likely be staged on the alley side of the property and/or on Regent St.

### **Meetings**

Prior to construction, the Contractor shall attend a public preconstruction meeting at a date and location to be determined. The Contractor shall have a project schedule prepared prior to this meeting so that the project schedule can be discussed with the attendees.

In addition to the standard preconstruction meeting, the Contractor shall attend an initial coordination meeting with utilities at a date, time and location to be determined.

During Construction, the Contractor shall attend weekly coordination meetings at a date, time and location that is to be determined. These meetings will be held to coordinate with the private utilities, to discuss upcoming events, and to coordinate with businesses and other institutions, as well as the public, on any upcoming access issues, water service issues or other concerns. As indicated under the Field Office bid item, the Contractor is responsible for finding/providing space for the weekly meetings.

### **SECTION 107.6      DUST PROOFING**

The Contractor shall take all necessary steps to control dust arising from operations connected with this contract. When ordered by the Engineer, the Contractor shall dust proof the construction area by using power sweepers and water. Dust proofing shall be incidental with operations connected with this contract.

### **SECTION 107.7      MAINTENANCE OF TRAFFIC**

Set up traffic control as shown on the Traffic Control Plan provided in the plan set.

Maintain one lane of inbound (northeasterly) traffic on the entire length of Monroe Street at all times. Maintain the traffic lanes from Odana Road and from Nakoma Road to Monroe Street at all times. The traffic lane shall be on a hard surface (i.e. concrete, asphalt or steel plates) and shall have a minimum width of 10 feet of pavement and 12 feet to the face of curb. Delineate the traffic lane with traffic barrels. Do not place traffic barrels within the 10 foot traffic lane.

Work on Monroe Street will not be restricted during peak hours.

Place changeable message boards on Monroe Street as shown on the Traffic Control Plan included in the plan set. Additional message boards may be needed as construction phasing warrants.

Alter traffic control from the provided Traffic Control Plan as conditions change in the field or as unexpected conditions occur. This includes relocating existing traffic control or providing additional traffic control. Install and maintain any necessary modifications or additions to the traffic control, as directed by the City Traffic Engineer, at no cost to the City. Conform all signing and barricading to the Federal Highways Administrations "Manual on Uniform Traffic Control Devices" (MUTCD).

Measure traffic control as a lump sum. Payment for traffic control is full compensation for constructing, assembling, hauling, erecting, re-erecting, maintaining, restoring, and removing non permanent traffic signs, drums, barricades, and similar control devices, for providing, placing, and maintaining work zone. Maintaining shall include replacing damaged or stolen traffic control devices. Measure temporary pavement markings, electronic arrow boards and changeable message signs as separate bid items.

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#### **Metro Buses:**

Inbound (northeasterly) Metro bus routes on Monroe Street will continue during the reconstruction project. Provide hard surface, bus drop off areas at each bus stop as noted on the Traffic Control Plan (paid under Temporary Bus Loading Pad bid item). Bus stops are to be located at the nearside of the following intersections: Glenway St, Commonwealth Ave, Arbor Dr, Leonard St, and Grant St.

Allow sufficient room for Metro buses to make the left turn from eastbound Monroe Street to westbound Regent Street throughout the project as shown on the Traffic Control Plan.

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#### **Intersection Closures:**

In general, side-streets to Monroe Street may be closed for construction, when needed. No two adjacent side streets may be closed simultaneously. Set up "Road Closed—Local Traffic Only" signs one block ahead of any side street closure and take down the signs when the side street reopens. Limit the closure times of the side streets as follows:

- Glenway Street—may be closed for a maximum of seven consecutive days in order to install sanitary sewer. The street may be closed for an additional fourteen consecutive days for final paving. When open, Glenway Street shall have one hard surface lane open in each direction
  - Commonwealth Avenue—may be closed for up to 14 consecutive days during the Madison Metropolitan School District summer session (June 9-August 31) in order to install underground utilities, and may be closed for an additional seven consecutive days during the summer session for final paving. When open, Commonwealth Avenue shall have one hard surface lane open in each direction. During the school year, Commonwealth may be temporarily closed from 8:30 a.m. to 2:00 p.m. on Mondays and from 8:30 a.m. to 2:30 p.m. on Tuesdays thru Fridays in order to install underground utilities on Monroe Street.
  - Grant Street—may be closed for a maximum of seven consecutive days in order to install sanitary sewer. The street may be closed for an additional seven consecutive days for final paving. When open, Grant Street shall have one hard surface lane open in each direction
  - Spooner Street—may only be closed between the hours of 8:30 a.m. to 4:00 p.m. to install storm sewer. The street may be closed for an additional seven consecutive days for final paving. When open, Spooner Street shall have one hard surface lane open in each direction
  - Odana Road—shall remain open on a hard surface travel lane to eastbound traffic at all times as shown on the traffic control plan.
  - Nakoma Road—shall remain open on a hard surface travel lane to eastbound traffic at all times as shown on the traffic control plan.
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### **Special Events:**

Freeze for Thought 5K/10K—Saturday, March 3<sup>rd</sup>, 2018:

The sidewalk on the southeast side of Monroe Street shall be open.

UW Spring Commencement—Saturday, May 12<sup>th</sup>, 2018:

No work shall take place. All intersections east of Edgewood Avenue, including Edgewood Avenue, shall be open.

Madison Mini Marathon—Saturday, August 18<sup>th</sup>, 2018, 7:00 a.m. to 11:00 a.m.

Runners will be on the Wingra Creek bike path and use Monroe Street from the bike path to Commonwealth Ave. Commonwealth Avenue shall be open with a hard surface. The Sprague Street intersection shall also be open.

UW Football Home Games:

No work shall take place on days of UW football home games. All intersections east of Edgewood Avenue, including Edgewood Avenue, shall be open.

Temple Beth El Holy Days—September 9-10 and September 18-19

Temple Beth El, 2702 Arbor Drive, will have increased traffic on these days. The Monroe Street intersections of Arbor Drive, Pickford Street and Knickerbocker Street shall be open during these days.

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### **Edgewood campus:**

Three separate schools share the Edgewood campus:

- Edgewood College (2,700 students) (608-663-4861)
- Edgewood High School (500 students) (608-257-1023)
- Edgewood Campus School (270 students) (608-663-4100), classes 7:50 a.m. to 2:45 p.m.

Notify all three schools of any access changes to Woodrow Street, Edgewood College Drive, the parking lot driveway on Monroe Street, and Edgewood Avenue at least 48 hours in advance. It is expected that the Campus School will be using the end of Woodrow to access the rear of the school for student pick-up and drop-offs, so any closures of Woodrow may only occur while the Campus School is not in session or during non-peak times for pick-ups and drop-offs. Since Woodrow will be used for access, the work to narrow the path and relocate the access gate in that area shall only be completed after two-way traffic is restored to Monroe St.

Edgewood College Academic Calendar:

Spring Semester:

Spring Recess: Monday-Friday, March 12-March 16

Easter Holiday: Friday-Monday, March 30-April 2

Last Class Day: Friday, May 11

Evaluation Week: Monday-Friday, May 14-18

Commencement: Sunday, May 20

Summer Session:

Classes begin: Tuesday, May 22

Last Class Day: Friday, August 10

Fall Semester:

Seminar Week Begins: Monday, August 13

Classes Begin: Monday, August 20

Fall Break: Monday-Tuesday, October 1-2

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**Truck Route Change:**

During this project, Odana Road, between South Midvale Boulevard and Monroe Street will be designated a city truck route. Nakoma Road will NOT be designated a truck route.

Do not drive construction vehicles the "wrong way" in the traffic lane open to the public.

Minimize disruptions to the open traffic lane.

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**Bike Path at Nakoma Road & Spring Trail:**

Flag bike path users around the sanitary sewer work at existing MMSD SAS MH-02-150 during "Odana Rd to Glenway St Phase 1A". Place typical bike path closure signage according to City of Madison Standard Detail Drawing # 6.30 with "Walk Bikes" sign.

**Bike Path at Wingra Park Entrance:**

When the bike path at the Wingra Park entrance (2425 Monroe Street) is closed for construction, a bike/pedestrian crossing shall be available at the Knickerbocker Street intersection. Place typical bike path closure signage according to City of Madison Standard Detail Drawing # 6.30 to direct path users to Knickerbocker Street.

Install type A low intensity flashing lights on all barricades used in the project per State of Wisconsin S.D.D. 15C2-4B. Install type C low intensity steady-burn lights on all barrels used in tapers as shown on the traffic control plan.

Maintain emergency vehicle access at all times.

Maintain sidewalk on at least one side of the street. Any closure of sidewalk shall be approved by the Construction Engineer and shall conform to City of Madison standard detail drawing 6.36. Maintain pedestrian movements crossing the construction zone at at least every other intersection and at the following intersections: Nakoma Rd, Odana Rd, Glenway St, Arbor Dr, Edgewood College Dr, Edgewood Ave, Spooner St, Grant St and Regent St. Pedestrian crossings of intersections shall have ramps that meet requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG) and shall consist of rubber mats to provide a flat, clearly-defined crosswalk, clear of mud and debris. Gravel or base course material is not acceptable.

Do not store construction equipment and materials within street right-of-way that is outside the project limits.

Backfill, plate or protect work areas with traffic control devices during non-working hours. If steel plates are used, notify the City of Madison Streets Division, 266-4681, one working day prior to placement of the plates.

Contact Tom Mohr, Traffic Engineering Division, [tmohr@cityofmadison.com](mailto:tmohr@cityofmadison.com), 608-267-8725, with any questions concerning these traffic control specifications.

#### **SECTION 107.8      NOTIFICATION WHEN CLOSING STREET**

The Contractor shall not remove or cover any traffic signs. For removal, replacement, or covering of traffic and parking signs, including overhead signs, contact the City of Madison Traffic Engineering Field Operations, 1120 Sayle Street, 266-4767, 8:00 a.m. to 4:00 p.m., a minimum of two working days in advance of when any existing signs need to be removed or covered. This service is free of charge. If the Contractor removes or covers the signs, the Contractor will be billed for the reinstallation or repair of, and any damage to, the signing equipment.

The Contractor shall notify the City of Madison Police Department, Fire Department, Madison Metro, and Traffic Engineering 48 hours in advance of all closure of streets. Notify Madison Metro one week prior to street closures, and reopening the road to through traffic for bus routing. Madison Metro contact is Katie Sellner (608) 261-9633.

#### **SECTION 107.10      OPENING OF SECTION OF HIGHWAY TO TRAFFIC**

Upon completion of all concrete work, final surface course of pavement, landscaping, topsoil, seed or sod, the City Construction Engineer shall certify that it is complete and shall contact the City of Madison Traffic Operations Section, 266-4767. The Contractor shall leave all barricades and traffic control in place until such time that the final signing has been installed by the City. The City shall notify the Contractor when the final signing is complete and the Contractor shall remove all temporary construction signs and barricades within 24 hours of the notification.

#### **SECTION 108.2      PERMITS**

The City of Madison has obtained a City of Madison Erosion Control Permit and has submitted a DNR WRAPP Water Resources Application for Project Permit (formerly known as Notice of Intent (NOI)) to obtain coverage under a Construction Site General Permit.

The Contractor shall meet the conditions of the permits by properly installing and maintaining the erosion control measures shown on the plans, specified in these Special Provisions, or as directed by the Construction Engineer or his designees. This work will be paid for under the appropriate contract bid items or, if appropriate items are not included in the contract, shall be paid for as Extra Work. A copy of the permit is available at the City of Madison, Engineering Division office.

This permit covers trench dewatering to a maximum of 70 gallons/minute from the project, provided appropriate control measures are in place. The City's obtaining this permit is not intended to be exhaustive of all permits that may be required to be obtained by the Contractor for construction of this project. It shall be the responsibility of the Contractor to identify and obtain any other permits needed for construction.

The Contractor shall refer to section 210.6 Erosion Control Implementation and Enforcement for additional information on the requirements regarding this topic.

Contractor will be responsible for acquiring permits and paying for the permit fees from the Madison Metropolitan Sewerage District(MMSD) for replacing the 6' diameter Sewer Access Structure (MMSD MH02-146) located at STA 18+05.03 RT 40.78(Glenway/Monroe Street) and the tap connection at MMSD MH02-150 (Nakoma Road/Spring Trail). The contractor shall follow all MMSD permit

requirements with this proposed work to their facilities. The contact from MMSD for these connections is Ray Schneider (608)347-3628, [rays@madsewer.org](mailto:rays@madsewer.org) for permitting. MMSD's permit fee for the 6' diameter sewer access structure installation and the tap are both \$1,075/ each permit.

#### **BID ITEM 10901 – FIELD OFFICE**

##### **DESCRIPTION**

All work under the Bid Item shall be completed per the Standard Specifications and per the following. The Contractor shall provide office space for use by the Contractor, the Engineer and the City Inspectors. The Field Office shall include, but is not limited to, heat and air conditioning, internet service, a high capacity copier/printer, drinking water, and conference table and chairs. The Field Office is to be located either on the project site or within 0.25 miles of the project.

Included with this item, the Contractor shall provide space to hold the weekly coordination meetings. It is expected that City staff, the Contractor, the private utilities and their contractor(s) as well as representatives from the businesses and other institutions along Monroe St. will be in attendance of these meetings, so the space provided will need to be sufficient to accommodate a number of attendees. This meeting space doesn't necessarily need to be in the same location as the Field Office, but the same location requirements apply.

#### **BID ITEM 10911 – MOBILIZATION**

Work under this contract will require multiple mobilizations for various aspects of the work in order to complete the work per the traffic control specifications and to meet the erosion control and phasing requirements of the projects. All mobilizations shall be considered incidental to this bid item.

#### **SECTION 109.2      PROSECUTION OF WORK**

The Contractor shall start work on **MARCH 12, 2018**. All work under this contract shall be completed by **NOVEMBER 16, 2018**.

Work shall begin only after the start work letter is received. If it is desirable to begin work before the above-mentioned date, the Contractor shall establish a mutually acceptable date with the City Engineer, and the agreed upon date must be determined prior to the public preconstruction meeting. Contractor shall be aware that private utility companies will be starting work in advance of this contract, so work in advance of this date may require additional coordination with those companies.

This project includes interim completion dates at 2 locations within the project limits. All work necessary to restore two-way traffic on Monroe St. between Nakoma Rd. and Glenway shall be completed on or prior to **July 28, 2018**. This includes two-way traffic on the Nakoma Rd. portion of the project. No interruptions to two-way traffic in this location will be permitted beyond this date. Odana Rd. shall be re-opened to two-way traffic by **September 1, 2018**.

All work from the intersection of Grant/Spooner to Regent St., including all intersections and work on Breese Terrace. shall be completed by **August 30, 2018**. Shrub, tree and perennial plantings may be completed in compliance with the specifications for these items, which may include installation after this date. If installation of plantings takes place after this date, the work shall be coordinated with the Engineer to avoid impacts on events.

Several intersections within the project limits has a limited closure timeframe. Refer to the Maintenance of Traffic specifications for the duration of the closure for each intersection.

The City is currently working on acquiring additional lands on the northeasterly corner of Commonwealth and Monroe St. in order to re-align this intersection. No work may proceed outside the existing right-of-way, including removal of the existing sign, until the land acquisition is finalized.

#### **SECTION 109.9      LIQUIDATED DAMAGES**

The fixed, agreed, and liquidated damages due the City from the Contractor for failure to complete all work at either location with a specified interim completion date shall be \$1,600 per calendar day, per location. If all work is not completed at both locations by the interim completion dates, the amounts shall be summed for a total of \$3,200 per day.

The fixed, agreed, and liquidated damages due the City from the Contractor for failure to complete all work within the specified timeframe shall be \$4,000 per calendar day.

#### **BID ITEM 20101 – EXCAVATION CUT**

Historically, there was a trolley car that used Monroe St. With past projects, it is expected that most of the infrastructure (rails, timbers) has been removed; however, during utility trenches and excavation work, some remnants may be encountered. Removal of miscellaneous items such as these shall be considered incidental the excavation cut item for the project.

#### **BID ITEM 20221 – TOPSOIL**

Topsoil shall be installed per the standard specifications except as follows. In locations where topsoil and sod or erosion mat are specified, a minimum of 6 Inches of Topsoil shall be placed.

#### **BID ITEM 20301 – SAWCUT CONCRETE PAVEMENT, FULL DEPTH** **BID ITEM 20303 – SAWCUT BITUMINOUS PAVEMENT**

Sawcuts that are to be paid are at the project limits and as required to salvage curb that is to remain. One sawcut along the length of the project will also be paid in order to meet the intended phasing and traffic control requirements of this contract. All other pavement sawcuts shall be considered as Contractor convenience and will be considered incidental the various items of work. In locations with asphalt pavement over a concrete pavement base, only one saw cut will be paid, which shall be for the concrete pavement.

#### **BID ITEM 20323 – REMOVE CONCRETE SIDEWALK & DRIVE**

This item includes removal of miscellaneous concrete items including removal of any concrete steps, concrete islands or mountable concrete noses. Removal of brick pavers shall also be paid under this item; pavers that are to be salvaged shall be paid under the Remove and Salvage Brick Pavers bid item.

#### **BID ITEM 20336 – PIPE PLUG**

With regard to the City of Madison Standard Specifications for Public Works Construction 2016 Edition Article 203.2(c), any pipe found in a trench that is less than 10" in diameter while installing a sewer facility shall be considered incidental to the pipe being installed.

Any pipe plugs required to abandon or remove a sewer access structure (pipes directly connected to the structure) shall be considered incidental to abandoning or removing the structure regardless of the size of the pipe being abandoned.



**BID ITEM 20701 – TERRACE SEEDING**

**BID ITEM 21063 – EROSION MATTING, CLASS I, TYPE A - ORGANIC**

These bid items shall be used to restore the turf terrace areas around existing trees where root systems prevent excavation necessary to place sod the appropriate elevation. Place seed and erosion mat around existing trees as directed by the Engineer and Forestry representative.

These bid items are also to be used when late season terrace restoration is expected and weather prevents placement of sod. The Engineer will make the final determination of where & when sod or seed and mat are to be used to restore terrace areas. The estimated quantities assume that the phase 2 terraces in the areas without interim completion dates will be restored with seed and erosion mat.

**BID ITEM 20801 – SODDING**

**DESCRIPTION**

Work under this bid item shall consist of preparing sod beds, furnishing and installing sod in accordance with Article 208 of the City of Madison Standard Specifications for Public Works Construction and as supplemented below.

It is expected that sod is to be used to restore all areas within the plaza, Wingra Park, all turf terrace areas within the portions of the project with interim completion dates, and all other phase 1 turf terraces. Depending on the weather at the time of terrace landscape restoration in the phase 2 areas, the terraces may be restored with sod or seed and erosion mat, paid under the appropriate bid items. The Engineer will make the final determination on how those areas will be restored. The estimated quantities in this contract assume that the phase 2 terraces will be restored with seed and erosion mat.

**MATERIALS**

All sod used under this contract shall be a tall fescue variety. The Contractor is responsible for choosing a fescue sod that will be appropriate for the site conditions. The sod must consist primarily of fescue grasses that will blend in with the surrounding non-disturbed lawn and will tolerate weekly mowings. Acceptable tall fescue varieties will be turf types only and include, but are not limited to: Grande II, ATM, 3<sup>rd</sup> Millennium SRP, Aggressor, Spyder LS, Firenze, and Wolfpack. Forage type varieties of fescue and Kentucky bluegrass sod varieties will be rejected.

The Contractor shall submit to the Engineer a spec sheet for the variety of fescue sod that is selected prior to the installation. Installation of the sod may only proceed after the variety of sod has been approved.

**SECTION 210.1(d) STREET SWEEPING**

When required, either by the erosion control plan or the Construction Engineer, the Contractor shall perform mechanical street sweeping on all streets or paved surfaces affected by construction equipment, hauling or related construction activities that result in mud tracking or siltation. Mechanical street sweeping shall be completed as directed by the Construction Engineer and shall remove all loose material to the satisfaction of the Construction Engineer. Depending on site conditions, construction activities, and hauling methods utilized by the Contractor mechanical street sweeping may be required multiple times throughout the day with an absolute minimum that all streets are clean at the end of the work day.

**ARTICLE 210.6****EROSION CONTROL IMPLEMENTATION AND ENFORCEMENT**

Timely action regarding the maintenance of erosion control practices is critical to compliance with the City of Madison's land disturbance permits as issued by both the WDNR and the City of Madison. To allow the City to be assured of compliance with these permits, and federal, state and local laws, the Contractor shall be required to proceed in the following manner with regard to the maintenance of these practices.

In the event an erosion control practice is determined by the Engineer or their designee to require maintenance, or if the terms of the erosion control permit are not being met, the Engineer shall order the Contractor, in writing, to maintain the erosion control practice/device or comply with the terms of the permit. The contractor shall have forty-eight (48) hours to complete that work and provide documentation that it has been completed to the Engineer.

Failure to complete the work within the forty-eight (48) hours shall result in any or all of the following actions by the Engineer:

- 1) The Contractor shall be charged one (1) day of liquidated damages for failure to complete the work during the ordered timeframe and an additional day of liquidated damages for each twenty four (24) hour period that passes after the initial forty eight (48) hours during which time the ordered work is not completed.
- 2) At the Engineer's discretion, the work ordered may be completed by City Forces. In this case, the Contractor shall be charged the liquidated damages as described in 1 above and shall be charged the full cost of City Forces responding to complete the ordered work.
- 3) At the Engineer's discretion, work on the project as a whole may be suspended under Section 109.6 until such time as the Contractor completes the originally ordered work. In this case, the Contractor shall still be charged liquidated damages as described in 1 above. Additionally, days of work will continue to be charged during the suspension of work. If this results in the Contractor failing to complete the project within the allotted contract time then additional liquidated damages shall be charged.

Notwithstanding the foregoing, the failure to comply with an order under this Section may constitute a default under Section 109.10.

The Engineer's decision under this Section may be reviewed under Section 105.2.

**BID ITEM 30342 – TREE GRATE 4'X8' (INCLUDING FRAME)****DESCRIPTION**

All work for this bid item shall be per the Standard Specifications, and as herein provided.

In locations where a 4'x8' tree grate is to be installed around an existing tree, the Contractor shall verify the size of the opening in each of the tree grates with City Forestry to make sure that it is appropriate for each individual tree. If the opening is not large enough, the Contractor shall cut the grate so that the opening is the appropriate size. All work necessary to resize the opening shall be considered incidental to this bid item.

The Contractor shall remove the existing tree grate, if present, (paid under Bid Item 20327) and shall hand dig around the existing tree taking care to not damage the roots. City Forestry may require that a Forestry representative be on site to help direct digging activities around the existing trees. The

Contractor shall coordinate this work with City Forestry. The area around the tree shall be dug out so the tree grate lays flat and even with the adjacent concrete. If necessary, any additional backfill materials and work shall be in accordance with the Standard Specifications and the plans and details.

In locations where a new tree is to be planted within a new grate, the Contractor shall coordinate with City Forestry to determine the final tree grate locations. Prior to installation of the tree grates, the Contractor shall provide an investigative excavation of the location to determine whether or not the site is suitable for tree planting (utility conflicts). Once a site is confirmed as an acceptable location by City Forestry, the Contractor shall complete the full excavation of the tree grate area to a depth of 3 ft., backfill the area with planting soil (paid separately) and install the tree grate in the final location per the standard specs and details. Any investigative excavations that are determined to not be suitable for tree planting shall be backfilled with select fill.

Coordination with Forestry and any excavation(s) necessary to investigate the tree grate areas and backfill the areas with the proper material prior to installation of the tree grate is included with the tree grate bid item. The Contractor shall maintain the tree grate support and safety measures until trees are planted in the new grates. Supporting tree grates and covering the openings until tree planting will be the responsibility of the Contractor, and this work is included with this item.

Tree grates may need to be cut in order to accommodate valves or other structures. Customizing the grate for each individual location is included with this item.

#### **BID ITEM 30344 – TREE GRATE 4'X12' (INCLUDING FRAME)**

##### **DESCRIPTION**

All work for this bid item shall be per the Standard Specifications, and as herein provided.

In locations where a new tree is to be planted within a new grate, the Contractor shall coordinate with City Forestry to determine the final tree grate locations. Prior to installation of the tree grates, the Contractor shall provide an investigative excavation of the location to determine whether or not the site is suitable for tree planting (utility conflicts). Once a site is confirmed as an acceptable location by City Forestry, the Contractor shall complete the full excavation of the tree grate area to a depth of 3 ft., backfill the area with planting soil (paid separately) and install the tree grate in the final location per the standard specs and details. Any investigative excavations that are determined to not be suitable for tree planting shall be backfilled with select fill.

Coordination with Forestry and any excavation(s) necessary to investigate the tree grate areas and backfill the areas with the proper material prior to installation of the tree grate is included with the tree grate bid item. The Contractor shall maintain the tree grate support and safety measures until trees are planted in the new grates. Supporting tree grates and covering the openings until tree planting will be the responsibility of the Contractor, and this work is included with this item.

Tree grates may need to be cut in order to accommodate valves or other structures. Customizing the grate for each individual location is included with this item.

#### **BID ITEM 40203 – HMA PAVEMENT TYPE E-3**

Provide pavement mix design to the Engineer for approval prior to paving. Design mixture conforming to 4.0% air voids to establish aggregate structure. Determine the target JMF asphalt binder content for production from the mix design data corresponding to 3.0% air voids (97% Gmm)

target at the design the number of gyrations (Ndes). Add liquid asphalt to achieve the required air voids at Ndes.

Ramping of the lower layer of asphalt pavement necessary to maintain safe use by traffic at the phase boundaries, manholes, sidewalk ramps and other locations as directed by the engineer shall be considered incidental to this bid item. Ramping may also be required adjacent to low points in order to help promote drainage to the storm sewer inlets. Removal of the ramped areas prior to surface paving shall also be considered incidental.

In some locations, the edge of the asphalt pavement is to be raised to create a defined flowline in order to drain pavement to the gutter. Raising of the edge of the asphalt pavement shall also be considered incidental to this item.

### **BID ITEM 40403 – 10 INCH CONCRETE PAVEMENT**

#### **DESCRIPTION**

All work under this bid item shall be per Parts III & IV of the Standard Specifications, except as follows. All dowel and tie bars shall be considered incidental to this bid item, including tie bars to existing pavement or curb.

#### **Article 301 Concrete and Concrete Structures**

##### **301.1 General**

All concrete shall be Air-Entrained, and content shall conform to:

Slip-formed concrete 7.0% +/- 1.5%

All other concrete 6.0% +/- 1.5%

Maintain a uniform consistency in consecutive batches of concrete. Use the following slumps for the technique used in horizontal pours (sidewalks, slabs curb & gutter, etc):

Slip-Formed – 2.5 inches or less

Not Slip-Formed – 4 inches or less

#### **Course Aggregates**

This special provision describes specialized material requirements for aggregates used in Concrete Pavements. Conform to Sections 415 and 501 of the WisDOT standard specifications except as modified in this special provision.

*Replace 501.2.5.4.1 of the WisDOT standard specifications with the following:*

##### **501.2.5.4.1 General**

- (1) Provide coarse aggregates from a department-approved source as specified under 106.3.4.2.
- (2) Use clean, hard, durable crushed gravel or crushed limestone free of an excess of thin or elongated pieces, frozen lumps, vegetation, deleterious substances, or adherent coatings considered injurious.
- (3) Use virgin aggregates only.

*Replace the first paragraph of 501.2.5.4.2 with the following:*

(1) The amount of deleterious substances must not exceed the following percentages:

DELETERIOUS SUBSTANCE	PERCENT BY WEIGHT
Shale.....	1.0
Coal.....	1.0
Clay lumps.....	0.3
Soft fragments.....	5.0
Any combination of above.....	5.0
Thin or elongated pieces based on a 3:1 ratio.....	15.0
Materials passing the No. 200 sieve.....	1.5
Chert <sup>[1]</sup> .....	2.0

<sup>[1]</sup>Material classified lithologically as chert and having a bulk specific gravity (saturated surface-dry basis) of less than 2.45. Determine the percentage of chert by dividing the weight of chert in the sample retained on a 3/8-inch sieve by the weight of the total sample.

*Replace the first paragraph of 501.2.5.4.3 with the following:*

- (1) The percent wear shall not exceed 40, the weighted soundness loss shall not exceed 9 percent, and the weighted freeze-thaw average loss shall not exceed 12 percent.

#### **415.3.10 Surface Testing and Correction**

Test the pavement surface at engineer-selected locations with a 10-foot straightedge or other engineer specified device. The engineer may direct the contractor to remove and replace areas with deviations greater than 1/2 inch in 10 feet. Areas directed to be removed and replaced shall be full-slab replacements (from existing joint to existing joint).

## **ARTICLE 500**

### **SEWER AND SEWER STRUCTURES GENERAL**

#### **SANITARY SEWER GENERAL**

The sanitary sewer designer for the project is Mark Moder. Mark's contact information is (608)261-9250 [mmoder@cityofmadison.com](mailto:mmoder@cityofmadison.com).

This project consists of the installation of 34' of 21" diameter PS46, ASTM F679 pipe, 212' of 18" diameter PS46, ASTM F679 pipe, 1,285' of 15" diameter SDR-35 pipe, 2,665' of 12" diameter SDR-35/SDR-26 pipe, 1,493' of 10" diameter SDR-35 pipe, 4,690' of 8" diameter SDR-35/SDR-26 pipe, 80' of 8" diameter Pressure Sewer pipe, 5374' of sanitary lateral (SDR-35 pipe), and 48' of pressure sanitary sewer lateral. Sanitary sewer pipe work shall include installing new sewer at the sizes and locations that are specified on the plan set and in accordance with the Standard Specifications.

One sanitary sewer point repair is needed in order to install (STA 11+94.62 LT 26.32 to SAS 4059-004. This point repair work shall be paid for with 12" diameter sanitary sewer main (Bid Item 50303), Compression Coupling (Bid Item 50357), Select Fill (Bid Item 50212) and Reconstruct Bench and Flowlines (Bid Item 50103).

All new sanitary sewer access structures shall include the Neenah R-1550 R-1050 Frame w/ City of Madison Logo Lid 1550-0054 (see S.D.D. 5.7.16 of the City of Madison Standard Specifications for Public Works Construction Latest edition). All new sewer main connections may be factory cored and shall be included in the structure. All existing main connections shall be field cored to accommodate

existing conditions and shall be compensated under BID ITEM 50791 SANITARY SEWER TAP. All sewer main and/or laterals not slated for replacement that are damaged during the installation of a structure shall be replaced by the Contractor and shall be considered incidental to the project. All benches and flowlines shall have a smooth trowel finish.

Contractors shall have a locator device on-site if they intend to start laying lateral pipe at the property line to minimize the amount of extra sidewalk removal. Each sanitary lateral shall have a maximum of 4 sidewalk squares removed and replaced. No additional compensation shall be awarded beyond this amount for the replacement of a sewer lateral. If laterals called for reinstatement on the plans are to be plugged under the direction of the engineer on-site, contractors are required to use a sonde device to confirm that the laterals are not active.

All sanitary sewer laterals were located by television inspection and City records from the main. Tunneling is expected to be required at the existing utility crossings. Any utility tunneling required shall be considered incidental to the pipe being installed.

It is advised that the Contractor visit the site prior to bidding to determine the type of trench protection that will be necessary for the sanitary sewer main installation.

#### **STORM SEWER AND STRUCTURES GENERAL**

The storm sewer designer for the project is Fadi El Musa Gonzalez. He may be contacted at (608) 243-5214 or [felmusagonzalez@cityofmadison.com](mailto:felmusagonzalez@cityofmadison.com).

Storm sewer pipe work shall include the installation of approximately 8950 feet of new storm sewer of various sizes and types.

Reconnection of existing pipes at new or existing structures, or new pipes at new or existing structures, shall be considered to be part of the work required to construct the new structure or to construct the new storm sewer pipe and shall not be rewarded with additional compensation. However, if the structure being removed is larger than the new structure, thus requiring additional pipe, the new pipe shall be paid under the appropriate bid item and the connection of the old pipe to the new pipe shall be accomplished with a concrete collar.

Where a new structure is to be constructed at an existing pipe, it is expected that the contractor shall saw cut the existing pipe in the required location to accommodate the placement of the new structure. If the contractor for his or her convenience deems it more suitable to remove the existing pipe to a full joint, the additional pipe and concrete collar required to reconnect to the new structure shall be the contractor's responsibility and shall not be compensated.

Connection of new pipes to existing structures shall be accommodated with a Storm Sewer Tap – Bid Item 50792.

Precast structures are only allowed where field poured structures are not specifically called for, and no precast structures are allowed until Utility Line Openings (ULO's) are completed and approval of the design engineer has been received.

## SECTION 502.1(c) DEWATERING

### DESCRIPTION

This section describes dewatering the site during construction or working with the water on-site in a manner that allows the project to be constructed in accordance with the plans and specifications. This item includes the dewatering of groundwater, surface water runoff, and trench dewatering, both clean and potentially contaminated.

The contractor is responsible for all work, materials and equipment required to comply with permit conditions to dewater the site. At a minimum, pump water into a settling tank to settle solids prior to discharge into the storm sewer for clean water and into the designated sanitary sewer for potentially contaminated water.

Potentially contaminated zones of groundwater are marked on the construction plan set. Conform with the requirements of Section 205 of the Standard Specifications, pertinent parts of the Wisconsin Administrative Code (Department of Natural Resources Environmental Investigation and Remediation of Environmental Contamination, Chapters NR 700-736), as shown on the construction plan set, and as supplemented herein. Comply with all permit requirements and applicable regulations, and monitor the discharge volume of potentially contaminated water generated as necessary to meet the permit requirements.

Discharge potentially contaminated water from the zones as indicated on the construction plan set or as directed by the Engineer to the sanitary sewer. For the purposes of this project suspended solids shall not be considered a type of contamination. Do not discharge contaminated groundwater without prior approval from the Environmental Consultant.

Obtain a *City of Madison Permit to Discharge to the Sanitary Sewer* compliant with all local ordinances and state statutes. The permit will require that the Contractor monitor the volume of total water discharged into the sanitary sewer and will determine the necessary reporting frequency. The contact for obtaining this permit is:

Megan Eberhardt  
City of Madison Engineering  
608.266-6432  
[meberhardt@cityofmadison.com](mailto:meberhardt@cityofmadison.com)

The City's Environmental Consultant will be responsible for obtaining the necessary approvals from the Madison Metropolitan Sewerage District (MMSD) for disposal of potentially contaminated groundwater. This approval will be issued at the same time as the *Permit to Discharge to the Sanitary Sewer*. Submit a dewatering plan to the City of Madison for approval with the application for *Permit to Discharge to the Sanitary Sewer*.

If free phase petroleum product, such as gasoline floating on the water, is observed during dewatering activities, terminate dewatering activities and notify the Engineer or the Environmental Consultant.

### CONSTRUCTION

Subsection 205.3 of the standard specifications is supplemented with the following:

Water shall not be allowed in trenches while pipe is being laid.

No masonry shall be installed in water nor shall water be allowed to rise over masonry or concrete if there

is danger of flotation or of setting up unequal pressures in the concrete until the concrete has set at least 24 hours and any danger of flotation has been removed.

Dewatering shall be done in a manner that assures safe working conditions and provides stable trench side slopes and trench bottom for adequate support of the pipe and appurtenances. Dewater sufficiently to minimize or eliminate groundwater pressures below the proposed trench bottom which otherwise may tend to cause boiling or a "quick" condition at the trench bottom. Where silty sands or other impervious soils are encountered at and/or below the pipe zone, the dewatering equipment must be adequate to relieve the groundwater pressure below the impervious soil layer and accomplish sufficient drainage of the impervious soils to provide a stable trench bottom.

Pump water from the dewatering operations directly to a minimum 1,500 gallon holding tank to allow for settlement of large solids. Periodically pump clean water from the top of the settling tank into the storm sewer system. Periodically pump potentially contaminated water from the top of the settling tank into the approved sanitary sewer. Provide a meter to measure the volume of potentially contaminated water discharged to the sewer system.

If free phase petroleum product, such as gasoline floating on the water, is observed during dewatering activities, terminate dewatering activities and notify the Engineer and the Environmental Consultant.

Notify the Engineer at least three (3) days in advance of any proposed changes to the dewatering plan.

Any flooding or erosion damage caused by dewatering operations is the responsibility of the contractor. If flooding or erosion damage occurs, take immediate steps to eliminate those conditions and to correct any damage. The control of all surface and subsurface water, ice, and snow are considered part of the dewatering. Erosion control shall be exercised at all times, including the placement of silt fences, sedimentation basins and any other devices necessary for proper control.

Dispose of all water removed so as not to endanger public health, private and public property or completed work. Only electrically driven pumps shall be used for dewatering. Provide sufficient mufflers or other noise reduction devices necessary to minimize the noise of the equipment. If ordered by the engineer, reduce noise to an acceptable level (as determined by the engineer) or supply an alternate system capable of meeting the noise requirements. This shall apply to any equipment utilized as part of the dewatering system.

Provide stand-by equipment to maintain continuous dewatering in the event of mechanical breakdown to part of the system.

The contractor is responsible for removal and/or abandonment of dewatering wells. Removal and/or abandonment shall conform to all state and local regulations.

## **METHOD OF MEASUREMENT**

Dewatering of clean water will not be measured. Measure dewatering of potentially contaminated water in gallons and provide this information to the Engineer at the frequency determined by the *Permit to Discharge to the Sanitary Sewer*. This information will not be used as a basis for payment.

## **PAYMENT**

**Dewatering is incidental to the contract;** therefore, this work will not be paid separately and shall be included with the trenching operations for the particular pipe being installed. Dewatering includes all work necessary for pumping, settling, and discharging water; for any permit fees required; for elimination



and correction of any flooding or erosion damage caused by dewatering operations; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

No disposal fees are required by the City of Madison for discharge to the storm sewer system. The City of Madison will pay for any disposal fees for the discharge of water to the sanitary sewer system.

#### **BID ITEM 50225 – UTILITY TRENCH PATCH TYPE III**

Utility Trench Patch Type III is intended to be used to re-open lanes of traffic on Monroe St. and at the intersections as required by the traffic control specifications. Following the utility work, the trench patch shall be installed until the permanent pavement can be installed. Trench patches shall consist of 3" of asphalt on 8" of gradation no. 2 crushed aggregate base course. Trench patches may also be installed with concrete pavement which shall consist of 5" Concrete pavement on 6" of gradation no. 2 crushed aggregate base course. Either method of trench patching will be paid the same under this bid item.

Trench patches that are to be placed in areas where the pavement will not ultimately be replaced (permanent trench patch) shall be installed per the standard specifications.

#### **BID ITEM 50353 – SANITARY SEWER LATERAL SDR 35/ SDR-26**

Sanitary sewer laterals shown on the construction plans were located by City television inspection and records only.

Where the existing sanitary sewer laterals are being extended to connect to the new sanitary sewer main (being installed in a different location as the existing main), pipe plugs shall be required to plug the existing sanitary sewer main on both sides of the old lateral location. The pipe plugs shall be considered incidental to the bid price for SANITARY SEWER LATERAL. All work associated with this bid item shall comply with Article 503 of the Standard Specifications.

Per the City of Madison Standard Specifications for sanitary sewer lateral construction on street reconstruction projects, Contractors are encouraged to begin installation of sanitary lateral pipe at the proposed sewer main. If Contractor starts excavation for the lateral at the property line, it shall be at the Contractor's risk. No Utility Line Openings (ULOs) will be granted for the inability to locate the sanitary lateral at the property line. Any extra sidewalk removal will not be compensated to the Contractor looking for an existing sanitary lateral at the property line. Contractors are encouraged to have a locator device on-site if they intend to start laying lateral pipe at the property line to minimize the amount of extra sidewalk removal.

Proposed sanitary lateral locations near trees are subject to change based upon data obtained in the field and property owner involvement. Excavation near trees shall comply with Article 107.13 of the Standard Specifications. If 5 ft of separation from the tree to the excavation cannot be maintained, lateral replacement shall stop at the curb.

Some of the properties have retaining walls on the property line. Contractor shall stop lateral replacement below sidewalk to avoid disturbing the walls. Retaining wall replacement will not be paid for.

Due to the traffic control phasing of this contract, it is expected that temporary connections and phasing of some lateral replacements will be required. Phasing of this work and temporary connections as necessary, shall be considered incidental to this bid item.

### **BID ITEM 50355 – RECONNECT SANITARY LATERAL**

The first 5 feet of pipe shall be included with this bid item regardless of pipe type or fittings used (SDR 35, Ductile Iron or AWWA C900 DR 18). Beyond 5 feet shall be paid for separately (Bid Item 50353 SANITARY SEWER LATERAL or Bid Item 90071 SANITARY SEWER LATERAL (PRESSURE)).

The first 5 feet of sewer lateral pipe/ fittings measured from the sewer main shall be considered the reconnect for all sewer lateral reconnections. Lateral connections connecting to sewer access structures shall be paid for separately as a sanitary tap. 5' of lateral pipe is not considered incidental to the sanitary tap connection.

Short body ductile iron mechanical fittings are acceptable fittings for AWWA C900 main installation. AWWA C900 (plastic) fittings will not be accepted.

### **BID ITEM 50390 – SEWER ELECTRONIC MARKERS**

With regard to the City of Madison Standard Specifications for Public Works Construction latest edition Article 503.3(c), each sanitary lateral shall have a minimum of two (2) electronic markers with the City providing the Contractor with the required number of electronic markers. For sanitary laterals, which only include the installation of a wye, a marker ball shall be installed directly above the wye connection to the main.

### **BID ITEM 50703 – 6' DIAMETER SANITARY SAS**

#### **DESCRIPTION**

Work under this item shall include all work, materials, equipment, and incidentals required to provide and install a 6' diameter sewer access structures as called for on the plans set in accordance with Article 507 of the City of Madison Standard Specifications for Public Works Construction Latest Edition.

Contractor shall provide a precast concrete Sanitary Sewer Access Structure (6-Foot Diameter) meeting the requirements of Standard Detail Drawing 5.7.2, 5.7.15, and Article 507.3 of the City of Madison Standard Specifications for Public Works Construction – Latest Edition. No doghouse style manholes will be approved for this structure.

The structure will require a MMSD casting at the contractors cost. MMSD will order the casting but the contractor will be responsible to reimburse MMSD.

This structure is will be a MMSD owned structure. The structure will require a permit from MMSD which will include a permit fee that the contractor will be responsible to obtain. Contractor shall notify MMSD 5 days prior to installation of the manhole structure to arrange for inspection. The contact from MMSD for this connection is Ray Schneider (608)347-3628, [rays@madsewer.org](mailto:rays@madsewer.org).

With this being a MMSD manhole, contractor shall coordinate the date of installation with MMSD to avoid wet weather manhole installation. Jen Hurlebaus of MMSD 222-1201 Ext 248, [jenH@madsewer.org](mailto:jenH@madsewer.org) is another contact from MMSD to coordinate with regarding this manhole installation regarding MMSD sewer capacity.

The precast manhole approval for MMSD MH01-146 will require approval from both City and MMSD staff. The City will forward the shop drawing for approval by MMSD staff. Either Ray or Jen will approve the proposed MMSD structure for MMSD.

## **METHOD OF MEASUREMENT**

6' DIAMETER SAS shall be measured by each structure installation acceptably completed.

## **BASIS OF PAYMENT**

6' DIAMETER SAS shall be paid for at the contract price, which shall be full compensation for all work as outlined in the description.

## **BID ITEM 50783 – 8 INCH SANITARY SEWER INSIDE DROP**

### **DESCRIPTION**

Work under this item shall include all work, materials, equipment, and incidentals required to provide and install an 8-inch diameter inside drop as called for on the plans set in accordance with Article 507(d)1 of the City of Madison Standard Specifications for Public Works Construction Latest Edition. The detail drawing in the City Standard Detail Drawing 5.7.30 indicates that the inside drop can only be used for 6-inch diameter or smaller pipe. Please disregard this. The intent is to build the Inside Drop Connection with 8-inch diameter pipe.

### **METHOD OF MEASUREMENT**

8 INCH SANITARY INSIDE DROP shall be measured by the vertical foot acceptably completed.

### **BASIS OF PAYMENT**

8 INCH SANITARY INSIDE DROP shall be paid for at the contract price, which shall be full compensation for all work as outlined in the description.

## **BID ITEM 50797 – EXTERNAL SEWER ACCESS STRUCTURE JOINT SEAL**

### **DESCRIPTION**

Work under this item shall include all work, materials, equipment, and incidentals required to provide and install External Sewer Access Structure Join Seal in accordance with Article 507.3 of the City of Madison Standard Specifications for Public Works Construction Latest Edition.

### **METHOD OF MEASUREMENT**

EXTERNAL JOINT SEAL shall be measured by each structure installation acceptably completed.

### **BASIS OF PAYMENT**

EXTERNAL JOINT SEAL shall be paid for at the contract price, which shall be full compensation for all work as outlined in the description.

## **BID ITEM 50801 – UTILITY LINE OPENING (ULO)**

The work under this item shall be completed in accordance with Article 508 of the Standard Specifications for Public Works Construction, Latest Edition. It is the discretion of the contractor to locate utilities by either a trench excavation or by a pothole technique. However, the contractor shall not

be compensated more than once for multiple utilities located within a maximum distance of five (5) feet long.

## **SECTION 601      ELECTRICAL, GENERAL REQUIREMENTS**

The existing signal and lighting poles, conduits, handholes, and manholes not scheduled for removal or abandonment shall be protected during construction. If the contractor believes that damage to such facilities is unavoidable, the contractor shall not damage or remove any facilities until the City Traffic Engineering electrical inspector has reviewed and approved such actions. Any damage or removal of City electrical conduit, wire, fiber, or structures, without the specific approval by the City Traffic Engineering electrical inspector shall be promptly repaired or replaced by and at the expense of the contractor. The City may elect to do repair work with City crews. The cost for any repair work done by the City will be billed to the contractor.

Any damage or removal of City street lighting facilities shall be repaired or replaced within 24 hours, but any resulting street light outage resulting from such damage or removal shall be confined to as few numbers of street lights as possible. The streetlight circuits shall remain operational each and every night. If any street light outage continues beyond 24 hours, the City shall have the right to make temporary or permanent repairs, with the full cost of such work, including engineering time, billed to the general contractor.

The City of Madison Traffic Engineering Division will install temporary signals on contractor installed temporary support structures and new signal poles as necessary and install wire for new traffic signal operation. City crews will also install new permanent street light controller cabinets. The contractor shall install and maintain streetlighting and traffic signal support equipment to keep lighting and signals operating during construction as described in bid item 90090.

Unless a traffic signal or street light pole or base is specifically designated for removal, it shall be saved. Unless a manhole, handhole or conduit is specifically designated for removal, it shall be saved.

The Contractor shall install new City-furnished streetlights as shown on the plan sheets.

The Contractor shall compare electrical plans to the plan and profile sheets to be aware of existing and proposed utilities as they relate to the proposed electrical work.

## **SECTION 601.10      MATERIALS FURNISHED BY THE CITY OF MADISON**

The following electrical materials will be furnished to the Contractor at the Traffic Operations Shop, 1120 Sayle Street. The Contractor shall notify the Traffic Operations Shop (Dennis Rowe at 266-9034) twenty-four (24) hours prior to picking up any materials.

<b>ITEM</b>	<b>Quantity</b>
16 Inch, Steel Transformer Bases	16
30 Ft, 11 Gauge Street Light Poles	62
30 Ft, 7 Gauge Street Light Poles	12
11 Ft 8" Aluminum Pedestrian Poles	71
Shorter Pedestrian Pole for Parking Light	2
Pedestrian Pole LED Fixture	71
Parking Pole Fixture	2
Street Light LED Fixtures	74
3/4" x 19" Anchor Bolts	68

3/4" x 24" Anchor Bolts	232
1" x 40" Anchor Bolts	232
1-1/4" x 48" Anchor Bolts	76
1-1/4" x 60" Anchor Bolts	12
1" x 60" Anchor Bolts	16
3/4" x 40" Anchor Bolts	52

#### **SECTION 602.3(d) ELECTRICAL CONDUCTORS**

Existing street light conductors shall be saved and reused whenever possible. Any existing wire that is damaged or removed by the contractor when it could have been reused shall be replaced by the contractor at no expense to the City. All work associated with saving and reusing existing wire or removing existing wire from conduit is incidental to associated conduit, wire, and base construction items.

#### **SECTION 602.4(b) ELECTRICAL CONDUIT**

Item 60241, Gopher Raceway, shall include any and all work associated with determining locations of existing utilities, such as underground locates. Item 60241 shall include raceways created by pushing, gophering or boring. The measured quantity will only include distances installed directly underneath curb and gutter, roadway, and sidewalk sections that are not removed or constructed with this project. Minor alterations in conduit location may be made by the City Traffic Engineering Electrical Inspector to avoid gopher installation.

Where curb and gutter is being replaced, the new conduit to be installed parallel to the curb and gutter shall be placed according to the Typical Conduit Installation detail shown on the plan sheet. When existing utilities preclude placing conduit as shown in the detail, the conduit shall be placed under the curb or as close to the curb as possible.

When curb and gutter is not being replaced, the new conduit to be installed parallel to the curb and gutter shall be placed in the roadway, three feet from the edge of gutter, and as approved by the City Traffic Engineering Electrical Inspector.

Entering existing manholes shall be made by watertight methods. The cost for drilling holes in manholes and resealing such openings after the conduit is installed shall be considered incidental to the electrical conduit bid item.

When a concrete cap is required and authorized by the City Traffic Engineering inspector, each one (1) cubic foot of concrete cap placed shall be paid for as 2.5 square feet of 5-inch sidewalk.

#### **SECTION 604 BASES FOR STREET LIGHTING UNITS**

The bid items for street light bases shall include cutting existing conduit and wire, pulling back and saving existing wire as noted, and extending existing conduit and wire into each new base where streetlight conduit and/or wire already exists. Existing street light conductors shall be saved and reused as indicated on the plan or by the City Traffic Engineering Electrical Inspector. Any existing wire that is damaged or removed by the contractor when it could have been reused shall be replaced by the contractor at no expense to the City. All work associated with installing conduit connection between existing conduit and new base, saving and reusing existing wire or removing existing wire from conduit is incidental to the bid items for street light bases.

## SECTION 701

## PROVISIONS FOR WATER INSTALLATION AND ABANDONMENT

The water designer for this project is Kelly Miess. She may be contacted at (608) 261-9640 or [kmiess@madisonwater.org](mailto:kmiess@madisonwater.org).

The project consists of furnishing and installing ductile iron water main and fittings on Monroe Street from Odana/Nakoma Road to Regent Street, and intersecting streets within the project limits. The project also includes abandoning existing water main including water valves, water valve structures and hydrants. Once the new systems have passed the pressure and water quality tests, cut off, extend as necessary, and reconnect the existing water service laterals to the new water mains unless the service is to be abandoned. All services that may require relocation due to conflicts with trees or any other issue must be authorized and the new location approved in advance by the Water Utility inspector. Any broken curb stops, buried curb boxes or otherwise dysfunctional service components must be approved for adjustment, removal and/or replacement by the Water Utility inspector in advance of any work being performed.

### Removal of Abandoned Facilities

The removal of any abandoned facilities required to install water main and shown in the plans shall be incidental to the water main installation.

### Water Services Outages Restrictions & Notifications

Contact affected business owners and/or managers before planning water service outages and schedule outages to accommodate their needs within allowable working hours including scheduling service outages on weekends. Sequence water main operations to minimize outages to affected business owners and residents.

Service outages to the Edgewood College campus, which is served from several laterals off Edgewood College Drive, are restricted to Saturdays only. Provide a minimum of a one-week prior notification to Edgewood College Director of Facility Operations Susan VanderSanden:

- Phone: (608) 663-2255
- E-mail: [SVanderSanden@edgewood.edu](mailto:SVanderSanden@edgewood.edu)

### Pressure Zone Boundaries & Zone Boundary Valves

The project spans two water pressure zones. Zone 7, the higher-pressure zone, is generally west of Western Avenue and Zone 6 generally east of Western Ave. See Sheet W-23 Water Plan Overview. There are normally-closed boundary valves along the zone boundaries. On Monroe Street at Western Avenue a 10-inch boundary valves a separates the zones. Be aware of the closed boundary valves when planning water outages. Work with the Water Utility Construction Inspector to adjust the zone boundaries if required, and to establish the new boundary valve as the proposed main is put into service.

### 1720 Monroe Street

Associated Bank is the current owner of the property at 1720 Monroe Street. Developer Urban Land Interests intends to purchase the site with an expected purchase date in May of 2018. Associated Bank will be vacating the existing building in April or May of 2018. After the building is vacated, the new owner intends to demolish the existing building and begin construction on a new development. The existing 4-in water service lateral to the property should NOT be reconnected, and should also NOT be disconnected, nor service interrupted before the property is vacated. A new 8-in service to the site off Stockton Court is proposed. Urban Land Interests contact is Ann Morrison 608-441-5163 or [amorrison@uli.com](mailto:amorrison@uli.com).

### Temporary Flushing Hydrants

Several temporary flushing hydrants are required and identified in the plans. In addition, determine the need for and location of temporary flushing hydrants based on phasing, traffic control requirements and

sequencing of water main installation. The furnishing, installation, use and abandonment of temporary flushing hydrants is incidental to water main installation. Do not permanently install any hydrant used as a temporary flushing hydrant more than one time.

#### Service Laterals Crossing Open Traffic Lane

Tap all service laterals that will extend from the proposed water main across an open lane of traffic during installation of the proposed water main in the opposite corridor. Stub the laterals at the traffic control/phase limits with a curb stop with the valve in the off position and at the elevation required to clear other utilities.

Make the final service connection from the curb stop when the open traffic lane has switched corridors. Leave the curb stop underground without a box and with the valve in the open position. When making the final connection, ensure the previously installed copper is still securely connected to the curb stop and that the lateral has not been compromised during construction. Repair any damaged laterals or leaking connections at no additional cost to the City. The furnishing and installation of the curb stop and any needed fittings are incidental to the service bid items. Any additional work performed to install a service that was not stubbed out or to repair leaking curb stops is incidental to the service bid items.

#### Large Service and Water Main Crossing Open Traffic Lane

Temporarily cap or plug all ductile iron service laterals and water mains that will extend from the proposed water main across an open traffic lane. Connect to the service or main from the other side when traffic is moved to the opposite corridor. The provision, installation and removal of temporary caps and plugs is incidental to the installation of proposed water main and services.

Take all necessary precautions to protect newly installed main as well as the existing Madison Water Utility system and ensure its proper functioning during construction.

View the sites prior to bidding and become familiar with existing conditions and utilities.

### **SECTION 702            MATERIALS**

Furnish all materials, labor and equipment necessary to complete this project except the tapping sleeves, tapping valves and tapping valve boxes. Water Utility will furnish the tapping sleeves, tapping valves, tapping valve boxes, and the crew to perform the taps.

### **SECTION 703            CONSTRUCTION METHODS**

Perform all work in accordance with these provisions and the City of Madison Standard Specifications, current edition. Keep all valves accessible and functioning throughout the duration of the work or as directed otherwise by the Water Utility representative.

#### 703.12.1 Discovery of Lead Service Laterals

If any lead services are discovered, protect the open excavation with plating to maintain public safety and access.

Be aware of traffic control requirements while performing any work that closes or partially closes any intersection. Refer to traffic control specifications and these special provisions for details.

### **WATER UTILITY GENERAL NOTES FOR SPECIFIC WORK:**

WN1            Replace the existing lead service with a new copper service.

WN2	Extend and reconnect the existing copper service to the new water main.
WN3	Existing service to be abandoned when water main is cut-off.
WN4	Disconnect service from the old water main and reconnect the existing copper water service lateral to the new water main.
WN5	Relocate the existing fire hydrant.
WN6	Abandon water valve access structure.
WN7	Furnish and install the new top section for the water access structure.
WN8	Abandon the valve box.
WN9	Furnish the ditch, compaction and all materials and labor for the installation of new service lateral.
WN10	Remove and salvage existing hydrant.
WN11	Replace the existing copper service with a new copper service.
WN20+	See Water Impact Plan for connection point isolation and water shut-off notification information.

#### **BID ITEM 70107 – REMOVAL OF EXCESS AMOUNTS OF BOULDERS**

This bid item shall include the removal of any rubble that meets the description for boulders under Bid Item 70107. The removal of any rubble that does not meet the description for boulders shall be incidental to water main installation.

#### **BID ITEM 90001 – SIDEWALK CURB**

##### **DESCRIPTION**

This bid item includes all work, materials, labor, forming, equipment and incidentals necessary to install Sidewalk Curb at the locations indicated on the plans. All work under this bid item shall be in accordance with Article 302 of the City of Madison Standard Specifications and supplemented as follows.

The sidewalk curb is to be installed at the back of walk in locations where the sidewalk is lowered as directed by the Engineer or at the locations indicated on the plans. The maximum height of the sidewalk curb above the top of the back of sidewalk shall be 6", and the curb shall then be tapered back as necessary to match the existing grade of the sidewalk once the grade allows. The Sidewalk Curb shall be 6" wide, and shall be poured monolithic with the adjacent sidewalk.

##### **METHOD OF MEASUREMENT**

Sidewalk Curb shall be measured by linear foot acceptably installed.

##### **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price per square foot, which price shall be payment in full for furnishing all material, labor, tools, equipment, formwork and incidentals necessary to complete this item of work.



## **BID ITEM 90002 – 10" COLORED CONCRETE CROSSWALK**

This work shall be in accordance with Bid Item 40403 – 10" Concrete Pavement and as herein provided.

A separate design mix shall be provided for all areas to receive integrally colored concrete. Integrally colored concrete mix(es) shall not contain fly ash. Consider admixture recommendations for concrete mix design, however, mix design must also conform to the pavement specifications. Submit the concrete mix design to the City of Madison for review.

Contractor shall provide a 12"x12" sample of the colored concrete, which will be reviewed and approved by the City prior to final installation. Provide a minimum of 3 days notice to the Engineer in order to schedule review of the sample.

Excess concrete material from mockups can be used elsewhere per the Engineers approval if the mix design meets the standard requirements of the secondary use.

### **MATERIALS**

Integral-mix colored admixture shall conform to the requirements of ACI 303.1, ASTM C979, ASTM C494 and ASSHTO M194. Admixture shall be a single-component, colored, water-reducing, set-controlling admixture containing no calcium chloride with coloring agents that are lime-proof and ultra-violet resistant. The admixture shall be factory formulated and packaged in cubic yard dosage increments, not multiple additives and pigments added separately into the mix.

The Color shall be a dark red, BASF Indiana Red (MC7006) or an approved equal. Provide a color sample to the Engineer prior to pouring a sample of the concrete.

All surfaces shall be cured uniformly. The concrete shall never be covered with plastic sheeting.

Curing compound shall comply with ASTM C309 and be of same manufacturer as colored admixture, for use with integrally colored concrete. All placing, finishing, curing, joint sealing, and patching shall be in accordance with the admixture manufacturer's recommendations.

### **CONSTRUCTION**

Add color pigment to concrete mixture according to manufacturer's written instructions and to result in hardened concrete color consistent with approved samples.

Protect all adjoining areas of concrete prior to pouring colored concrete. Finish the surface as required by the manufacturer, including a broom surface finish per the standard specifications.

Control joints shall only be sawed. Tool joints within the colored concrete will not be allowed. Spacing of the joints shall be approximately 8ft., and joints within the 1 ft. buffer (where the colored concrete is immediately adjacent to existing sidewalk) shall be spaced at 2 ft. Longitudinal joints may be tooled as well as joints within the 1 ft. buffer area.

Apply curing compound per manufacturer's recommended coverage rate and to meet curing requirements of the City of Madison Standard Specifications.

10" Colored Concrete Crosswalk shall match the visual appearance of the approved reference samples. Replace any not conforming to the reference samples at the Contractor expense.

## **METHOD OF MEASUREMENT**

10" Colored Concrete Crosswalk shall be measured by the square yard installed and accepted.

## **BASIS OF PAYMENT**

10" Colored Concrete Crosswalk, measured as stated above, is full compensation for providing all materials, including concrete, joint fillers, joint sealers, and expansion joints; for excavating and preparing the foundation; backfilling and disposing of surplus material; for placing, finishing, protecting, and curing; and restoring the work site.

## **BID ITEM 90003 – COLORED AND TEXTURED CONCRETE 7-INCH**

## **DESCRIPTION**

This work shall be in accordance with the requirements of Part 3 of the City of Madison Standard Specifications, except as herein after amended.

A separate design mix shall be provided for all areas to receive integrally colored concrete. Integrally colored concrete mix(es) shall not contain fly ash. Consider admixture recommendations for concrete mix design, however, mix design must also conform to the standard specifications. Submit the concrete mix design to the City of Madison for review.

Prior to installing in the design locations, Contractor shall provide a sample of the anticipated color and texturing methods.

## **MATERIALS**

All concrete designated as colored in the plans shall utilize an integral-mix colored admixture and shall conform to the requirements of ACI 303.1, ASTM C979, ASTM C494 and ASSHTO M194. Admixture shall be a single-component, colored, water-reducing, set-controlling admixture containing no calcium chloride with coloring agents that are lime-proof and ultra-violet resistant. The admixture shall be factory formulated and packaged in cubic yard dosage increments, not multiple additives and pigments added separately into the mix.

The Color shall either be "Limestone" (C-20) by Scofield, or an approved equal.

A custom finish will be required for all colored concrete surfaces. The finish shall be created by using a compost material with organic matter of a custom mix approved by the City. Madison's Central Park at 202 S. Ingersoll St. contains examples of colored concrete walks with the desired surface texture. Physical samples, in a 1-quart bag, of the compost mixture shall be submitted prior to placement of the concrete; multiple sample batches may be required to hone in on the exact mixture of compost elements and sizes.

All surfaces shall be cured uniformly. The concrete shall never be covered with plastic sheeting.

Curing compound shall comply with ASTM C309 and be of same manufacturer as colored admixture, for use with integrally colored concrete. All placing, finishing, curing, joint sealing, and patching shall be in accordance with the admixture manufacturer's recommendations.

## **CONSTRUCTION**

Add color pigment to concrete mixture according to manufacturer's written instructions and to result in hardened concrete color consistent with approved samples.

Provide materials and labor for constructing all excavations, base preparation/installation, foundation preparation/installation and backfilling.

Protect all adjoining areas of concrete prior to pouring colored concrete. Finish the surface as required by the manufacturer, including a broom surface finish per the standard specifications.

Apply curing compound per manufacturer's recommended coverage rate and to meet curing requirements of the City of Madison Standard Specifications.

Place 4" of compost over the concrete while still impressionable, tamp it in place and keep in place during the curing period. After curing, remove and wash.

Colored and Textured Concrete 7-Inch shall match the visual appearance of the approved reference samples. Replace any not conforming to the reference samples at the Contractor expense.

## **METHOD OF MEASUREMENT**

Colored and Textured Concrete 7-Inch shall be measured by the square foot installed and accepted.

## **BASIS OF PAYMENT**

Colored and Textured Concrete 7-Inch, measured as stated above, is full compensation for providing all materials, including concrete, color admixtures and custom surface finish compost blend(s), joint fillers, joint sealers, and expansion joints; for excavating and preparing the base and foundation; backfilling and disposing of surplus material; for placing, finishing, protecting, and curing; and restoring the work site.

## **BID ITEM 90004 – CONCRETE ISLAND**

### **DESCRIPTION**

This bid item includes all work, materials, labor, forming, equipment and incidentals necessary to install Concrete Islands per the detail drawings and at the locations indicated on the plans. All work under this bid item shall be in accordance with Articles 302 and 303 of the City of Madison Standard Specifications and supplemented as follows.

The base of the island shall be constructed with the adjacent road base, which will be paid under the appropriate bid items. Prepare the base per the standard specifications, and form and pour the islands per the standard specifications and details. Concrete islands are to be poured monolithic with control joint per the standard specifications.

If necessary for the maintenance of traffic, any placement of asphalt pavement, sawcutting of the pavement, and removal/excavation of the pavement and any additional base material shall be considered incident to this item of work.

Each island is to have mountable noses per the standard detail drawings. The mountable noses are to be part of the monolithic concrete islands, and will be paid under this bid item.

## **METHOD OF MEASUREMENT**

Concrete Island shall be measured by square foot acceptably installed.

## **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price per square foot, which price shall be payment in full for furnishing all material, labor, tools, equipment, formwork and incidentals necessary to complete this item of work.

## **BID ITEM 90005 – DECOMPOSED GRANITE**

### **DESCRIPTION**

This bid item is to provide decomposed granite for the tree openings where the trees are too large for tree grates, or to restore existing areas that have been treated with decomposed granite. Provide uniform 4" depth to surface of tree opening. Full 4" depth may not be possible at all locations due to tree roots. Do not damage tree roots for installation of Decomposed Granite.

### **MATERIALS**

Decomposed Granite is to be orange/red in color. Contractor shall submit sample to Engineer prior to ordering or installing.

### **METHOD OF MEASUREMENT**

Decomposed Granite shall be measured by square foot of installed material.

### **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price per square foot, which price shall be payment in full for furnishing, installing stone, and for furnishing all labor, tools, equipment, and incidentals necessary to complete this item of work.

## **BID ITEM 90006 – PLANTING SOIL MIXTURE**

### **DESCRIPTION**

This work shall consist of the furnishing and installing planting mixture as shown on the plans and as herein provided.

### **MATERIALS**

*Topsoil:* Topsoil texture shall be naturally produced soil of loam, sandy loam to sandy clay loam with the following parameters and suitable for the germination of seeds and the support of vegetative growth:

- Gravel – Less than 10% by volume
- Sand – 30-70% by volume
- Silt – 10-15% by volume
- Clay – 10-15% by volume
- Organic Matter – 2-8% Dry Weight
- pH – 5.0 to 7.3

Submit topsoil intended to be used on this project to the UW-Madison Soils Testing Laboratory (Marshfield, WI) or Hummel Soils Labs (Trumansburg, NY) or Turf Diagnostics & Design (Linwood, KS); soil testing will be at the expense of the Contractor. Follow the Laboratory's written instructions for collecting, labeling and processing samples to be sent.

Ensure that samples are collected, processed, and delivered to the Laboratory in a timely manner; failure to do so that results in failure of obtaining results back cannot cause delay to the project or any other associated work. Samples should be submitted a minimum of 45 days prior to the start of installation of planting mixtures to ensure that testing and possible re-testing can be performed.

Request the following topsoil test be performed by the Laboratory (all tests must be performed by a single laboratory):

- USDA soil texture, including a particle size analysis for gravel, clay, silt and sand fractions;
- Infiltration/Permeability/Hydraulic Conductivity testing using ASTM D 2434 or ASTM F1815 at 80% and 85% compaction at proctor density.
- Chemical Analysis:
  - o Nutrient levels (ppm) including phosphorous, potassium, calcium, magnesium, manganese, iron, copper, zinc and calcium.
  - o Percent organic matter content
  - o pH
  - o Soluble salts by electrical conductivity
  - o Cation Exchange Capacity (CEC).

*Sand:* Coarse sand, ASTM C-33 Fine Aggregate, with a Fines Modulus Index of 2.8 and 3.2 Clean, sharp, natural sands free of limestone, shale and slate particles, pH lower than 7.0 with the following size distribution (submit testing results to demonstrate compliance):

<u>Sieve Size</u>	<u>% Passing</u>
3/8"	100
#4	95-100
#8	80-100
#16	50-85
#30	25-60
#50	5-30
#100	4-10
#200	2-4

*Compost:* Compost shall meet the requirements of the US Compost Council "Landscape Architecture/Design Specifications for Compost Use", section "Compost as a Landscape Backfill Mix Component", with the following additional requirements: Compost shall be yard waste trimmings and/or source-separated municipal solid waste to produce fungi-dominated compost; compost shall not be derived from biosolids or industrial residuals.

The compost supplier must provide a statement that the compost meets federal and state health and safety regulations.

Compost testing methodologies and sampling procedures shall be as provided in "Test Methods for the Examination of Composting and Compost" (TMECC), as published by the US Composting Council. Submit results for review and approval prior to delivery on site or use as a component of the Planting Mixture.

*Fertilizer:* Slow-release, organic fertilizer only as necessary if noted by the soil testing facility based on plant requirements.

*Mycorrhizal Inoculant:* Basis of Design: CPR #1 Mycorrhizal Root Inoculant from BioGreen LLC, 30937 Gilmer Road, Volo, IL; (847) 740-9637, or approved equal. Rates, method(s), and timing of application shall be per BioGreen's written instructions for this specific site and application.

*Planting Mixture:* Provide a blend of the following materials (specified in this section, including review and submittal of all testing results prior to use on the project) to achieve the following parameters:

#### PHYSICAL PARAMETERS

<u>Material</u>	<u>Acceptable Range</u>
Sand	35-50% by volume
Compost	12-17% by volume
Topsoil	35-50% by volume

\*Adjust the ratio of components to achieve infiltration rates between 2-3 inches per hour when compacted to 80-85% maximum dry density. Submit infiltration testing results and final material blend to Landscape Architect prior to use on this project.

#### CHEMICAL PARAMETERS

<u>Parameter</u>	<u>Acceptable Range</u>
pH	5.5-7.3

### CONSTRUCTION

Thoroughly blend components of Planting Mixture off-site before spreading. Any adjustments to pH, nutrient content, or soil texture class shall be performed at this stage and pre-blended before spreading. Refer to physical parameters above and ensure that final blend meets the infiltration rate requirement.

Include mycorrhizal soil inoculants as part of planting soil mixtures in rates indicated by the supplier for the specific type of planting in each area.

Before installation of Planting Mixture, deep till, rip or fracture subgrades to a minimum of 12 inches deep unless otherwise indicated in drawings to support a single tree's root ball. Backfill the area with Planting Mixture in 8" lifts, mixing the first lift of Planting Mixture with the decompacted subgrades to blend. Lightly compact each lift enough to be able to withstand foot traffic without causing a footprint more than 1" deep.

Place planting mixture for all tree plantings and planting beds, unless noted otherwise on plans, to a lightly compacted, final depth of 24-inches.

Note: Bioretention areas are being constructed separately and as such have a separate engineered soil mixture; refer to that section for additional information.

Fertilizers and inorganic soil amendments shall be applied only as recommended by the soil tests and in accordance with the requirements of Section 629.3.1 of the Standard Specifications for Highway Construction and in accordance with all local regulations.

## **METHOD OF MEASUREMENT**

Planting Mixture will be measured by the Cubic Yard (CY), lightly compacted in place.

## **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price cubic yard, which price shall be payment in full for furnishing all materials and amendments, providing all material testing and re-testing, excavating and removing existing material to depths indicated, tilling subgrades and placing Planting Mixture material; and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work.

## **BID ITEM 90007 – BIKE RACK, SINGLE STALL**

### **DESCRIPTION**

This work shall consist of the furnishing and installing bike racks at the locations shown on the plans and as herein provided. Bike racks shall be installed on a 5" concrete pad (paid under Bid Item 30301). Contractor shall contact the Engineer prior to installing the concrete pad to verify the size and the location of the concrete pad and bike rack.

### **MATERIALS**

All bike racks shall be galvanized steel. Acceptable single stall bike racks are: "Bike Hitch" made by Dero, "Post & Ring" made by Saris, or approved equal. The contractor shall install the same style of rack for bike racks. More information regarding bike racks can be found on the City Traffic Engineering website at:

<http://www.cityofmadison.com/trafficEngineering/documents/MadisonBikeParking20100715.pdf>

### **CONSTRUCTION**

Install bike racks with stainless steel bolt and anchor system according to manufacturer's instructions in locations shown on the plans. Install plastic shims under the base of the bike rack to elevate the anchoring location slightly above the sidewalk; coordinate shim placement with the Engineer.

## **METHOD OF MEASUREMENT**

Bike racks shall be measured by the unit, each, installed and accepted in place.

## **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price each, which shall be payment in full for furnishing, installing bike racks; and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work.

## **BID ITEM 90008 – REMOVE, SALVAGE & REINSTALL BIKE RACK, SINGLE STALL**

### **DESCRIPTION**

This work shall consist of removing the existing single stall bike racks, salvaging and storing the bike racks in a secure location, and re-installing the bike racks on new concrete sidewalk. There are several

galvanized single stall bike racks located within the terrace areas on Monroe St., and the locations of the bike racks to be removed, salvaged, and reinstalled are indicated on the plans.

## **MATERIALS**

Any bike racks that are damaged by the Contractor and require replacement shall conform to the following. All bike racks shall be galvanized steel. Acceptable single stall bike racks are: "Bike Hitch" made by Dero, "Post & Ring" made by Saris, or approved equal. The contractor shall install the same style of rack for bike racks. More information regarding bike racks can be found on the City Traffic Engineering website at:

<http://www.cityofmadison.com/trafficEngineering/documents/MadisonBikeParking20100715.pdf>

## **CONSTRUCTION**

The Contractor shall remove the bike racks, taking care to not damage the surface or bend, dent, twist or cause any other sort of damage to the racks. Damaged racks shall either be repaired or replaced at the Contractor's cost.

Upon removal of the bike racks, the Contractor shall store the bike rack in a secure location to ensure that the bike rack isn't stolen, lost or damaged by equipment. Once removed, it is the Contractor's responsibility to ensure that the bike rack remains in sound condition and in their possession. If the rack is lost, stolen or damaged during the time, it shall be repaired or replaced at the contractor's cost.

Reinstall bike racks with stainless steel bolt and anchor system according to manufacturer's instructions in locations shown on the plans. Install plastic shims under the base of the bike rack to elevate the anchoring location slightly above the sidewalk; coordinate shim placement with the Engineer. The locations of the bike racks shall match the location prior to construction or be in approved alternate location as indicated on the plans or as directed by the Engineer.

## **METHOD OF MEASUREMENT**

Remove, Salvage & Reinstall Bike Rack, Single Stall shall be measured by the unit, each, installed and accepted in place.

## **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price each, which shall be payment in full for removing, salvaging, hauling, storing and reinstalling; and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work.

## **BID ITEM 90009 – TEMPORARY PAVEMENT (UNDISTRIBUTED)**

### **DESCRIPTION**

This work shall include all work, materials, labor and incidentals necessary to construct a temporary pavement consisting of 3" minimum thick HMA pavement or 5" minimum concrete pavement suitable for use as a temporary surface for motor vehicles, bikes, and pedestrians at the locations directed by the Engineer for maintenance of traffic.

Preparation for the temporary pavement is included with this item including excavation or fill as needed. The pavement shall be installed on existing base course material or, in areas where the grade is too low, the Contractor shall install Gradation 2 crushed aggregate base course as needed, which shall be



considered incidental to this item. A minimum of 8" of gradation no. 2 base course shall be used with asphalt pavement and a minimum of 6" of gradation no. 2 base course shall be used with a temporary concrete pavement. The Contractor shall be responsible for maintaining the temporary pavement and all components with no additional compensation.

All materials, preparation and placement shall be in accordance with Part IV of the Standard Specifications. The Contractor shall place the temporary pavement such that it is even with the adjacent paved surfaces and will be suitable for use for a driving surface or for pedestrian use.

Excavation of the temporary pavement prior to placement of permanent infrastructure shall be considered incidental to the Excavation Cut item, regardless of the pavement type that is used.

#### **METHOD OF MEASUREMENT**

Temporary Pavement shall be measured by the square yard acceptably installed.

#### **BASIS OF PAYMENT**

Temporary Pavement shall be measured as described above shall be full payment for all work, materials and incidentals required to complete the work in accordance with the description.

#### **BID ITEM 90010 – TEMPORARY SIDEWALK (UNDISTRIBUTED)**

#### **DESCRIPTION**

This special provision describes installation and maintenance of temporary sidewalk material to be used to provide and maintain pedestrian access through the site and to all businesses and sidewalk café space where applicable.

#### **MATERIALS**

Furnish a hard temporary surface material consisting of asphaltic surface, any grade of concrete, skid resistant steel plating, wood bridging, rubber matting or alternative material as approved by the Engineer. Gravel or base course material is not acceptable. If wood bridging is required, rubber matting shall be installed on top to provide a slip resistant surface, which shall be included with wood bridging temporary sidewalk and will not be paid twice under this item.

#### **CONSTRUCTION**

Install, maintain, and remove temporary sidewalk material as directed by the Engineer. Level and compact the surface prior to placing temporary surface material. The temporary sidewalk shall have a minimum clear width of 8 feet (additional width may be required in sidewalk café areas); be located outside the immediate work area, as approved by the Engineer; and meet the requirements of the current Americans with Disabilities Act Accessibility Guidelines (ADAAG). The Contractor shall maintain the temporary sidewalk when disturbed by construction operations or utility trenches or as necessary to keep the access in compliance with ADAAG. Depending on the amount of disturbance maintaining that temporary access may require removing and relaying the material in the same location.

If necessary for construction activities, temporary sidewalk may involve construction of wood bridging to maintain access over open trenches or curing concrete. Any wood bridging shall be constructed with protective railing where required and be ramped at either end such that the wood bridging is not a trip hazard.

## **METHOD OF MEASUREMENT**

Temporary sidewalk shall be measured by the square foot acceptably installed, maintained and removed.

## **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price which is full compensation for furnishing, loading, hauling material; for preparing the foundation; for furnishing, placing, maintaining, and removing temporary surface material; for reconstructing or relaying the temporary surface material; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

## **BID ITEM 90011 – TEMPORARY CROSSWALK ACCESS**

### **DESCRIPTION**

This special provision describes maintaining accessible crosswalks crossing the construction zone. Maintaining accessible crosswalks consists of maintaining a crosswalk on existing pavement, new pavement, or temporary surface material. If required due to the location of the temporary cross walk, installation of a temporary ramp may be required to meet ADA guidelines, and shall be considered incidental to this bid item. Temporary Crosswalk Access shall be used to maintain pedestrian access as required under Maintenance of Traffic.

### **MATERIALS**

Furnish a hard temporary surface material consisting of asphaltic surface, any grade of concrete, skid resistant steel plating, or alternative material as approved by the Engineer. Gravel or base course material is not acceptable.

### **CONSTRUCTION**

Install, maintain, and remove temporary surface material at Temporary Crosswalk Access locations as shown on the plans or as directed by the Engineer. Level and compact the surface prior to placing temporary surface material. The temporary crosswalk shall have a minimum clear width of 4 feet; be located outside the immediate work area, as approved by the Engineer; and meet the requirements of the current Americans with Disabilities Act Accessibility Guidelines (ADAAG). The Contractor shall maintain the Temporary Crosswalk Access when disturbed by construction operations or utility trenches or as necessary to keep the access in compliance with ADAAG. Depending on the amount of disturbance to the Temporary Crosswalk, maintaining that temporary access may require removing and relaying the material in the same location.

## **METHOD OF MEASUREMENT**

Temporary Crosswalk Access will be measured as Each Temporary Crosswalk Access acceptably installed, maintained and removed in a single location.

## **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price which is full compensation for furnishing, loading, hauling material; for preparing the foundation; for furnishing, placing, maintaining, and removing temporary surface material; for reconstructing or relaying the

temporary surface material; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

#### **BID ITEM 90012 – INSTALL 4'X8' TREE GRATE FRAME**

##### **DESCRIPTION**

This bid item shall be used to install 4'x8' tree grate frame at the locations indicated on the plans. In these locations, the existing terrace trees are too large to have a standard tree grate installed around the trunk. The Contractor shall supply the only the frame for a standard 4'x8' tree grate, and install the frame per the manufacturer's instructions., ensuring that there are no offsets between the frame and the adjacent concrete.

During installation of the frame, the Contractor shall take care to not damage the tree roots. If during preparations for the tree grate frame, large surface roots are encountered, the Contractor shall contact the City Forestry representative to inspect the roots and to help inform as to how to proceed with the work.

Once the frame is installed, backfill the area with Decomposed Granite (paid separately) such that the surface of the decomposed granite is flush with the surface of the tree grate frame.

##### **METHOD OF MEASUREMENT**

Install 4'x8' Tree Grate Frame shall be measure as the each unit acceptably installed.

##### **BASIS OF PAYMENT**

This item, measured as provided above, shall be paid at the contract unit price, which shall be full compensation for furnishing the tree grate frame, excavating and preparing the area for the installation and installing the frame and for furnishing all labor, tools, equipment, an incidentals necessary to complete the work as set forth in the description.

#### **BID ITEM 90013 – CONCRETE PAVEMENT JOINT SEALING**

##### **GENERAL**

Concrete Pavement Joint Sealing shall consist of cleaning the joint in preparation for sealing and sealing all contraction and expansion joints in the concrete pavement with a hot applied joint sealing material. The work shall conform to the plan details as follows.

##### **MATERIALS**

All joints shall be sealed with a hot applied joint sealant conforming to the Specification for Joint and Crack Sealants, Hot-Applied, for Concrete and Asphalt Pavements, ASTM Designation D6690, type II. A Certification of Compliance shall be furnished to the engineer prior to application.

##### **CONSTRUCTION**

All contraction and expansion joints in concrete pavement, all sawed longitudinal joints and the joint between pavement and curb edge shall be sealed with a hot poured sealer.

The operation of sealing shall be performed as soon as practical upon elapse of the curing period and in any event prior to the time traffic of any kind uses the pavement.

Joints shall not be sealed until they have been inspected and approved by the engineer.

Application of the joint sealer shall be made when the joint surfaces are clean and dry.

Immediately before sealing the joint thoroughly clean the joints of all laitance, curing compound and other foreign material. Exposed joint faces shall be cleaned by sandblasting, or by water blasting with sufficient pressure to thoroughly and completely clean the joint. A multiple-pass technique shall be used until the surfaces are free of material that might prevent bonding. For final cleaning immediately prior to installation of the sealer, the joints shall be blown clean with oil-free compressed air. The joint faces must be surface dry when sealant is applied.

The sealing compound shall be heated to the pouring temperature recommended by the manufacturer in an approved kettle or tank, constructed as a double boiler, with the space between the inner and outer shells filled with oil or other satisfactory heat transfer medium. The heating kettle shall be equipped with a mechanical agitator, positive temperature control and an approved dial thermometer for checking temperatures of the compound. The heating kettle, if and when operated on concrete, shall be properly insulated against the radiation of heat to the concrete surface.

The sealing compound shall not be heated above the maximum safe heating temperature. The maximum safe heating temperature shall be determined from tests made on samples from each lot or shipment of the material delivered to the project. When so approved by the engineer, the manufacturer's recommended maximum safe heating temperature may be used in lieu of test determinations where relatively small quantities of sealer are used. Any material heated above the maximum safe heating temperature shall be discarded.

Pouring of joints shall be made when the sealing material is at the required temperature and, insofar as practicable, the sealing compound shall be maintained at a uniform temperature during pouring operations. Pouring shall not be permitted when the temperature of the sealing compound in the applicator, as it is applied to the joint, is more than 10 degrees Fahrenheit below the recommended pouring temperature. Pouring of the molten sealer in the joint opening shall be done with such equipment that the sealer completely fills the joint opening without overflowing on the adjoining surface and when finished, after shrinkage, the sealer is approximately flush with the adjoining surfaces. In the event satisfactory sealing of a joint is not accomplished in a single pouring, the sealing compound shall be placed in two pourings.

At least one-half of the required amount shall be placed in the first pouring, and the second pouring shall follow the first as soon as practicable after the first pouring has attained maximum shrinkage but not later than one hour after the first pouring.

After final pouring, Contractor shall remove all excess material or spillage from the pavement surface.

## **METHOD OF MEASUREMENT**

Concrete Pavement Joint Sealing will be measured in linear feet along the joint in place, complete and accepted.

## **BASIS OF PAYMENT**

Concrete Pavement Joint Sealing, measured as provided above, will be paid at the contract unit price per linear foot. Payment is full compensation for cleaning the joint, for furnishing and applying the joint sealant, and for all labor, tools, equipment and incidentals required to complete the work.

**BID ITEM 90014 – EXCAVATION, LOADING AND HAULING OF PETROLEUM CONTAMINATED SOIL**

**DESCRIPTION**

This special provision describes excavating, loading, and hauling of petroleum contaminated soil to the Waste Management Madison Prairie Landfill. The City shall be responsible for all waste profiling and provide signed manifests to the Contractor to take with each load to the landfill. Tipping fees shall be paid for by the City of Madison.

Waste Management Madison Prairie Landfill  
3490 Nelson Road  
Sun Prairie, WI 53590  
(t) 608.837.9031

Work shall be performed in accordance to standard spec 205 and with pertinent parts of Chapters NR 700-754 of the Wisconsin Administrative Code, as supplemented herein. Per NR 718.07, a solid waste collection and transportation service-operating license is required under NR 502.06 for each vehicle used to transport contaminated soil.

**Notice to the Contractor – Contaminated Soil Locations**

Zones of known or suspected petroleum-contamination are indicated on the construction plan set, based on soil borings and DNR files. If contaminated soils—based on unusual odor, presence of cinders, staining, etc.—are encountered elsewhere on the project, terminate excavation activities in the area and notify the Environmental Consultant and Engineer. For more information regarding environmental contamination within the project limits, contact:

Brynn Bemis  
City of Madison Engineering  
210 Martin Luther King, Jr. Blvd., Rm 115  
Madison, WI 53703  
608.267.1986  
[bbemis@cityofmadison.com](mailto:bbemis@cityofmadison.com)

**Coordination**

Do not transport materials offsite to a landfill for disposal without prior approval from the environmental consultant. Coordinate work under this contract with the City of Madison Environmental Consultant:

Brynn Bemis  
City of Madison Engineering  
210 Martin Luther King, Jr. Blvd., Rm 115  
Madison, WI 53703  
608.267.1986  
[bbemis@cityofmadison.com](mailto:bbemis@cityofmadison.com)

The role of the Environmental Consultant will be limited to:

1. Providing hauling manifests for Madison Prairie Landfill.
2. Assisting with determining the location and limits of petroleum-contaminated soil to be excavated based on soil analytical results, visual observations, and/or field screening instruments.

3. Coordinating response measures for unknown contamination encountered.
4. Documenting that activities associated with management of contaminated soil are in conformance with the contaminated soil management methods for this project as specified herein.

Provide at least a 14-calendar day notice of the preconstruction conference date to the environmental consultant. At the preconstruction conference, provide a schedule for all excavation activities in the areas of contamination to the environmental consultant. Also notify both the Environmental Consultant and Project Engineer at least three (3) calendar days prior to commencement of excavation activities in each of the contaminated areas.

### **Health and Safety Requirements**

*Supplement standard spec 107.1 with the following:*

During excavation activities, expect to encounter soil contaminated with petroleum contamination. Site workers taking part in activities that will result in the reasonable probability of exposure to safety and health hazards associated with hazardous materials shall have completed health and safety training that meets the Occupational Safety and Health Administration (OSHA) requirements for Hazardous Waste Operations and Emergency Response (HAZWOPER), as provided in 29 CFR 1910.120.

Prepare a site-specific Health and Safety Plan, and develop, delineate and enforce the health and safety exclusion zones for each contaminated site location as required by 29 CFR 1910.120. Submit the site-specific health and safety plan and written documentation of up-to-date OSHA training to the engineer prior to the start of work.

### **CONSTRUCTION**

*Subsection 205.3 of the standard specification is supplemented with the following:*

The Environmental Consultant will periodically evaluate soil excavated from the contaminated area to determine if the soil will require offsite bioremediation. The environmental consultant will evaluate excavated soil based on field screening results, visual observations, and soil analytical results from previous environmental investigations. Assist the environmental consultant in collecting soil samples for evaluation using excavation equipment.

While excavating, only excavate contaminated soils as required by the construction plan set. Do not over-excavate contaminated soils, unless directed by the Environmental Consultant or Engineer.

Directly load and haul soils designated in the construction plan set or by the Environmental Consultant for offsite landfill. Excavated contaminated soils may be temporarily stockpiled on site for no more than 24 hours. WDNR stockpile requirements for contaminated materials are specified in NR 718.05. Place contaminated soil on base material impervious to the contaminant and to water, such as concrete, asphalt, or plastic sheeting. Cover piles with impervious material, such as plastic sheeting, to prevent infiltration of precipitation and to inhibit volatilization of soil contaminants.

Use loading and hauling practices that are appropriate to prevent any spills or releases of contaminated soils or residues. If spills or releases occur, immediately notify the Environmental Consultant and Engineer. Immediately recover all contaminated soil, residue, and any new contamination that was caused by the spill or release. Prior to transport, sufficiently dewater soils designated for off-site disposal so as not to contain free liquids.

Dispose of petroleum-contaminated soil at the approved facility's bioremediation facility.

#### **METHOD OF MEASUREMENT**

Excavation, Loading and Hauling of Petroleum-Contaminated Soil will be measured in tons of contaminated soil accepted by the approved landfill as documented by weight tickets generated by the landfill.

#### **BASIS OF PAYMENT**

This item, measured as provided above will be paid at the contract unit price, which is full compensation for contaminated soil excavation, segregation, loading, and hauling of petroleum-contaminated soil; assistance with soil sampling; dewatering soil prior to transport; temporary stockpiling; replacement fill material; weighing of trucks; obtaining weight tickets from scale attendant; providing original copies of weight tickets to the engineer and the Environmental Consultant; arranging to have certificate of soil treatment submitted to the Engineer and the Environmental Consultant; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

#### **BID ITEM 90015 - HIGH FRICTION COLORED SURFACE-BIKE LANE GREEN**

#### **DESCRIPTION**

This work consists of furnishing and applying a high friction surfacing system in accordance with this Section and in conformity with the lines and details shown on the plans. The field installed system shall consist of a Methyl Methacrylate (MMA) resin system that is used for pavement area markings and anti-skid surfacing to provide high friction resistance and the desired color. The color of the High Friction Colored Surface shall be Bike Lane Green.

The manufacturer's technical representative shall come to the construction site to train Department and Contractor personnel prior to surface treatment and shall be available during application as necessary or contractor shall provide documentation from manufacturer's representative endorsing contractor as qualified to install the material.

#### **MATERIALS**

**General:** Use Color-Safe Pavement Marking with Anti-Skid Surface by Transpo Industries or an approved equal. Use a MMA based resin system capable of retaining an aggregate topping under vehicular traffic conditions. Install High Friction Colored Surface in accordance with manufactures specifications.

The MMA based resin system shall comply with chromaticity requirements in accordance with MUTCD Interim Approval for Optional Use of Green Colored Pavement for Bike Lanes.

**MMA Based Resin System:** The MMA based resin system shall meet the following requirements:

<u>Property</u>	<u>Value</u>	<u>Test Method</u>
Tensile Strength @ 7 days, psi, minimum 1000		ASTM D 638
Hardness, Shore D, minimum	80	ASTM D 2240
Gel Time, minutes, minimum	10	ASTM D 2471
Cure Rate, hours, maximum	3	Film@ 75°F
Water Absorption @ 24 hours, max.	0.25%	ASTM D 570

**Aggregate:** The aggregate shall be high friction crushed Bauxite, Granite, or gravel. The aggregate will be delivered to the construction site in clearly labeled bags or sacks. The aggregate shall be clean, dry and free from foreign matter. The aggregate shall meet the following requirements:

<u>Property</u>	<u>Value</u>	<u>Test Method</u>
Aggregate Abrasion Value,	maximum 20	LA Abrasion
Aggregate Grading,		
No 6 Sieve Size,	minimum passing, 95%	
No 16 Sieve Size,	maximum passing, 5%	
Aggregate Color	Green	

**Certification:** Finished surface shall have a minimum 60 FN40R in accordance with ASTM E274) of aggregate bonded to a vehicular bearing surface using the modified epoxy binder.

## CONSTRUCTION METHODS

**General:** Apply High Friction Colored Surface in accordance with manufactures specifications.

**Preparation:** Prepare surfaces so that they are clean, dry, and free of all dust, oil, debris and any other material that might interfere with the bond between the epoxy binder material and existing surfaces. The manufacturer's representative will determine if all surfaces have been adequately cleaned.

Protect utilities, drainage structures, curbs and any other structure within or adjacent to the treatment location against the application of the surface treatment materials. Cover and protect all existing pavement markings that are adjacent to the application surfaces as directed by the Engineer. Remove by grinding any pavement markings that conflict with the surface application and thoroughly sweep or vacuum the surface clean prior to the epoxy binder application.

Pre-treat joints and cracks greater than 1/4 inches in width and depth with the mixed epoxy specified herein or by using an alternative procedure proposed by the manufacturer and agreed upon by the Engineer. Proceed with the epoxy binder and aggregate topping installation once the epoxy, in the pre-treated areas, has gelled or once the alternative procedure has been accomplished.

For applications on new pavements, install the high friction epoxy binder and aggregate topping a minimum of 20 days after the placement of the underlying and adjacent pavement.

**Mixing and Application of MMA based resin system and Aggregate Wearing Course:** Utilize one of the following methods for the application of the MMA based resin system, as applicable.

1) **Hand mixing and application:** Proportion the MMA based resin system as recommended by the manufacturer, and mix using a low speed, high torque drill fitted with a helical stirrer. Hand-apply the mixed components onto a prepared pavement surface at a thickness recommended by the manufacturer. Uniformly spread hand-applied base binder onto the substrate surface by means of a serrated edge squeegee.

2) **Mechanical mixing and application:** Apply the MMA based resin system material by a truck mounted application machine onto the pavement section to be treated in varying widths at a uniform application thickness. Proceed with operations in such a manner that will not allow the MMA based resin system material to separate in the mixing lines, cure, dry, or otherwise impair retention bonding of the high friction surfacing aggregate. Apply the mixed components mechanically onto the prepared pavement surface with a uniform thickness of 50 to 100 mils. Immediately, mechanically apply the high friction surfacing aggregate in a uniform, continuous manner.



For either of the above methods, do not use vibratory or impact type compaction on the aggregate after placement. Use only lightweight rollers to seat the aggregate topping without crushing the aggregate. Complete coverage of the "wet" MMA based resin system material with aggregate is necessary to achieve a uniform surface. No exposed wet spots shall be visible once the aggregate is placed.

**Curing:** Allow the high friction aggregate topped MMA based resin system to cure in accordance with manufacturer recommendations. Protect treated surfaces from traffic and environmental effects until the area has cured.

**Removal of Excess Aggregate:** Remove the excess aggregate by hand brooms, mechanical sweeping, or vacuum sweeping before opening to traffic. Excess aggregate can be reused on the following day's installation, provided the aggregate is clean, uncontaminated, and dry.

The Engineer may require additional mechanical or vacuum sweeping as necessary after the system fully cures and the treated surface is open to traffic.

## **PERFORMANCE REQUIREMENTS**

**Raveling and Delamination:** Remove and replace high friction colored surface treatment that ravel, delaminates, or wears off within 90 days after placement, unless approved to remain in place by the Engineer. The limits of removal and replacement shall be approved by the Engineer. The replaced high friction colored surface treatment shall meet the requirements of this sub-article.

**Warranty:** The MMA based resin system material shall be installed per plans and specification. The Engineer will notify the Contractor within 48 hours of installation regarding any of the MMA based resin system material that is installed not to specification or to the satisfaction of the Engineer. Non conforming MMA based resin system material shall be removed at no charge to the City and replaced with conforming product.

The warranty period in reference to the following points is to be 3 years from date of installation. Warranty of the following items shall be submitted in writing by the Contractor or his installer prior to the pre-construction meeting.

- The MMA based resin system material will maintain its original color in the surface area throughout the 'warranty period' with the exception of natural weathering, tire and dirt deposits and abnormal markings applied after installation.
- Friction will achieve a minimum BPN of 60 in accordance with ASTM E-303
- The MMA based resin system material will maintain its skid resistance qualities in 100% of its surface area to never fall below a BPN of 60 during the 'warranty period'.
- With the exception of structural cracking or excessive movement of the surface beneath the two-part modified epoxy material will not be subject to excessive cracking in its surface.

## **METHOD OF MEASUREMENT**

High Friction Colored surface will be measured in square foot, completed and accepted. No deduction will be made for the areas occupied by manholes, inlets, drainage structures, pavement markings or by any public utility appurtenances within the area.

## **BASIS OF PAYMENT**

Payment for this work, measured as provided above, will be made under: High Friction Colored Surface at the contract unit price per square foot, which shall be full compensation for all work, materials, labor, and

incidentals required to complete the work as specified, including any re-application or repair required under the Performance Requirements and Warranty as provided herein.

#### **BID ITEM 90016 – RE-GRADE TERRACE (UNDISTRIBUTED)**

##### **DESCRIPTION**

This item shall include all work, equipment, hauling and incidentals necessary to re-grade terraces as directed by the Engineer. Within the portion of the project where curb and gutter is to remain, the grade of the terrace may be such that it prevents positive drainage across the terrace from the side to the street, or the grade may be such that erosion has or will occur as a result of sediment build-up.

In the locations directed by the Engineer, the Contractor shall excavated these areas and re-grade the slope of the terrace to maintain drainage from the sidewalk to the curb or to even the terrace to eliminate areas that are problematic from a maintenance perspective. The depth of the excavation shall be such the terrace can be restored with 6" of topsoil and sod or seed & mat (restoration work will be paid under the appropriate bid items). The method of restoration will be directed by the Engineer prior to the re-grading work beginning.

##### **METHOD OF MEASUREMENT**

Re-grade Terrace will measured by the Square Yard acceptably excavated and re-graded. The depth of the required excavation in each location will not be factored into the measured quantity.

##### **BASIS OF PAYMENT**

Re-grade terrace, measured as provided above, will paid at the contract unit price, which shall be full compensation for all work, equipment, hauling and incidentals necessary to complete the work as set forth in the description.

#### **BID ITEM 90017 – REMOVAL OF MISCELLANEOUS UNDERGROUND OBSTRUCTION (UNDISTRIBUTED)**

##### **DESCRIPTION**

This item shall include all work, equipment, hauling and incidentals necessary to miscellaneous underground obstructions. In the soil boring logs, it indicates that auger refusal was encountered due to an unmarked obstruction. When trenching or performing excavation work under this project, if an obstruction is found, the Contractor shall coordinate with Engineer to determine a means of either removing the obstruction an its entirety or a portion of the obstruction as necessary to complete the work. All work to remove the obstruction shall be performed in accordance with Part II of the Standard Specifications.

The Contractor shall use means to remove miscellaneous structures that are in line with current industry standards. During removal, the Contractor shall take care to ensure protection of any surrounding items that are to remain, including existing utilities, building faces, awnings, and other items that are to remain.

This item is intended to be used on only for miscellaneous underground concrete structures or other man-made structures similar soundness. This item is not intended to be used for rock or boulder removal, and removal of those items shall be in accordance with the Standard Specifications and appropriate bid items. Similarly, removal of concrete surface items such as sidewalks, driveways, pavement, etc. shall be in accordance with those appropriate bid items.

## **METHOD OF MEASUREMENT**

Removal of Miscellaneous Underground Obstruction shall be measured by the Cubic Yard acceptably removed.

## **BASIS OF PAYMENT**

Removal of Miscellaneous Underground Obstruction, measured as provided above, will paid at the contract unit price, which shall be full compensation for all work, equipment, hauling and incidentals necessary to complete the work as set forth in the description.

## **BID ITEM 90018 – 5" CONCRETE SIDEWALK WITH POETRY**

### **DESCRIPTION**

This item is intended for construction of 5" concrete sidewalk in accordance with Article 303 of the Standard Specifications, except that the sidewalk shall be stamped with poetry. Stamps for the poetry shall be provided by either the City or the neighborhood association. The stamps may or may not be provided depending on whether funding for the stamps is procured by the neighborhood association, so some or all of his work may be deleted from the contract. If actual quantities are more or less than estimated, or if items are deleted from the contractor's work, the changed quantities or deleted items shall not constitute the basis for a claim for damages for anticipated profits for the work dispensed with. The neighborhood association shall retain ownership of the stamps.

If available, the stamps may not be provided until after August 1st. Depending on phasing of the work, temporary asphalt or concrete may need to be placed in order to meet ADA accessibility standards. Temporary sidewalk, if necessary, will be paid under the appropriate bid item. The contractor shall be responsible for maintaining and removing temporary pavement with no additional compensation.

Contractor shall confirm poem locations with the Engineer prior to installation. It is anticipated that the poems would be installed in clusters of 3 on adjacent or nearby sections, with an estimate total of 12 sections of sidewalk within the project limits.

## **METHOD OF MEASUREMENT**

5" Concrete Sidewalk with Poetry shall be measured in place by the square foot of surface area acceptably completed.

## **BASIS OF PAYMENT**

The item 5" Concrete Sidewalk with Poetry shall be payment in full for all work, materials, incidentals and coordination required to complete the work in accordance with the description

## **BID ITEM 90019 – REMOVE & SALVAGE BRICK PAVERS**

### **DESCRIPTION**

This bid item includes all labor, equipment, and incidentals necessary to Remove & Salvage Brick Pavers at the locations indicated on the plan or as directed by the Engineer. The Contractor shall completely remove the pavers while taking care to not damage the individual bricks.

The Contractor shall then coordinate with adjacent property on a location to place and store the removed pavers. Stack the salvaged pavers at the agreed upon location. If the owner will re-install the brick pavers at a future date, backfill the removed paver area with select fill. Backfilling of the removed paver area, if necessary, shall be considered incidental to this bid item.

#### **METHOD OF MEASUREMENT**

Remove & Salvage Brick Pavers shall be measured by the Square Foot of pavers acceptably removed and salvaged.

#### **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price, which shall be payment in full for all labor, tools, equipment, and incidentals necessary to complete this item of work.

#### **BID ITEM 90020 – TERRACE EXCAVATION FOR TREE PLANTING**

##### **DESCRIPTION**

This bid item shall include all work necessary to excavate areas within grass terraces to an appropriate depth suitable for new tree plantings. All work under this item shall be in accordance with Article 201 of the Standard Specifications. The Contractor shall coordinate with the Engineer and Forestry representative to select the appropriate locations for tree plantings to be completed in the future, under a separate City Forestry contract.

Once the locations marked, the Contractor shall excavate the terrace area to a suitable depth for new tree plantings, approximately 30" to 36". The terrace shall be excavated to a minimum length of 12 ft., but that may be extended as directed by the Engineer. The width of the terrace shall also be excavated to as close to the sidewalk and curb as is reasonable. While performing the excavation, the Contractor shall take care to not undermine the adjacent curb or sidewalk. If damaged during the excavation process, the Contractor shall replace curb or sidewalk at their cost.

Once the area is excavated, the Contractor shall backfill the area with planting soil, and the surface shall be restored with seed and erosion mat, which all will be paid under the appropriate bid items.

##### **METHOD OF MEASUREMENT**

Terrace excavation for tree planting shall be measured by the Cubic Yard, acceptably completed.

##### **BASIS OF PAYMENT**

Removal of Miscellaneous Underground Obstruction, measured as provided above, will be paid at the contract unit price, which shall be full compensation for all work, equipment, hauling and incidentals necessary to complete the work as set forth in the description.

#### **BID ITEM 90021 – REMOVE & SALVAGE OVERHEAD BUSINESS SIGN**

##### **DESCRIPTION**

This bid item shall include all work, equipment, hauling and incidentals necessary to remove & salvage the overhead business sign at the location indicated on the plans. All work to remove and salvage the sign shall be in accordance with Article 203 of the City of Madison Standard Specifications.

The existing sign is located on the northeast corner of Commonwealth and Monroe St., and is located in an area of property that will be acquired by the City for re-alignment of the intersection with Commonwealth. The Contractor shall not proceed with this work until the land acquisition is finalized.

The sign is surrounded by a block landscaping wall and some plantings. Removal of the wall and landscaping is included with this bid item. Salvage the blocks for the wall and place at a suitable location after coordination with the adjacent business & property owner.

The Contractor shall first coordinate with Engineer and adjacent business owner prior to removal to determine a location to place the sign after removal. It is assumed that the support post is to be salvaged along with the sign.

It is assumed that support post for the sign is attached, either embedded or bolted, to a concrete foundation. The Contractor shall disconnect and abandon any electrical wiring to the sign in accordance with applicable codes and regulations and remove the sign and support pole taking care to not damage the sign or pole beyond its current condition. Any additional damage will require repairs to be done by the Contractor at their cost. Any foundation for the sign shall be removed to a minimum of 36 inches below the surface elevation, and all work to remove the foundation shall be in accordance with Part II of the standard specifications. All electrical wiring, including any underground electrical services between the building and the sign shall be abandoned in accordance with local building codes.

Place the sign and post and any other salvaged materials for the sign at the location agreed upon with adjacent property owner.

#### **METHOD OF MEASUREMENT**

Remove & Salvage Overhead Business Sign is to be measured and paid by Each unit acceptably completed.

#### **BASIS OF PAYMENT**

Remove & Salvage Overhead Business Sign, measured as provided above, will be paid at the contract, which price shall be payment in full for all labor, equipment, tools, hauling and incidentals necessary to complete the work as set forth in the description.

#### **BID ITEM 90022 – REMOVE, SALVAGE AND REINSTALL ACCESS GATE**

##### **DESCRIPTION**

Work under this item shall include all labor, materials, and incidentals required to remove, salvage and reinstall the access gate on the south end of Woodrow Street. The gate is locked and the Contractor should contact a City key holder for unlocking. Currently, Streets West and Madison Fire Department hold keys. The Streets West contact is Tony Barlow (608) 267-1174.

The Contractor shall take all necessary steps to protect the existing gate from damage during removal, salvaging, storing and replacing the gate with construction. Take care to also protect any existing signage on the gate.

When re-installing the gate, ensure that the opening between the gates is 6 ft. wide. It is intended that this opening prevent vehicles from driving down the path while still maintaining bike access, so it is important

to maintain as close to a 6 ft. opening as possible. Re-install the gate in the same manner as existing, including the placement of any signage on the gate.

As indicated on the details and under maintenance of traffic, this item shall only be completed once two-way traffic is restored to Monroe St. as Woodrow will be used by the Campus School for pick-up on drop-offs.

#### **METHOD OF MEASUREMENT & BASIS OF PAYMENT**

Remove, Salvage and Reinstall Access Gate shall be measured and paid as a lump sum bid item for all work necessary, which shall be full compensation for all work as provided in the description.

#### **BID ITEM 90023 – TEMPORARY BUS STOP LOADING PAD**

##### **DESCRIPTION**

This item shall be used to install temporary bus stop loading pads at the locations indicated in the traffic control plans or as directed by the Engineer.

During construction, Metro buses will continue to use Monroe St. in the inbound direction; however, the stops along Monroe St. will be limited and in temporary locations. When possible, the bus stop locations will use existing loading pads, but, where none exist, the Contractor shall install temporary bus stop loading pads as necessary to serve the stops. Depending on the phase of traffic control, the temporary pads will either be located in the terrace areas or adjacent to the construction zone. When located within the construction zone, the Contractor shall take care to not install the pads in front of driveways or within turning radii for vehicles turning on to or off of side streets.

Temporary bus stop loading pads shall be constructed either of concrete or asphalt. Concrete loading pads shall be 5" of concrete on 3" minimum of crushed aggregate or shall be 3.5" of asphalt on 6" crushed aggregate minimum. The temporary loading pads shall either be 6' wide or the entire width of the terrace and 10 ft. in length, minimum.

This item also includes all work necessary to maintain the bus stop loading pads while in use. The loading pads shall be kept free of significant cracks and offsets and kept visible and clean and all times while in use. Maintenance of the loading pads may include removal and replacement as directed by the Engineering.

This item also includes removal of the temporary bus stop loading pads once a switch in traffic phasing no longer requires use of the temporary loading pads, and when it is not expected to require use in any future traffic control phasing.

##### **METHOD OF MEASUREMENT**

Temporary bus stop loading pads shall be measured by the Each pad acceptably installed, maintained and removed.

##### **BASIS OF PAYMENT**

Temporary bus stop loading pads, measured as provided above shall be paid at the contract unit price, which shall be full compensation for all work, materials, forms, labor, equipment and incidentals necessary to complete the work as set forth in the description.

## **BID ITEM 90024 – REMOVE AND RESET OPEN CELLED PAVERS**

### **DESCRIPTION**

This bid item includes all work necessary to remove and reset open-celled pavers at the locations indicated on the plans or as directed by the engineer. In locations with existing open-celled pavers, the Contractor shall take care to limit the disturbance area. If it is deemed that the Contractor disturbs an area larger than necessary, the unnecessary area shall be restored at the Contractor's expense.

When necessary for work under the contractor, the contractor shall remove existing open-celled pavers taking care to not damage the pavers. If damaged, the pavers shall be replaced at the Contractor's expense. The existing pavers are Turfstone 24"x16"x3-1/2" pavers, and any replacement pavers shall be of the same manufacturer or approved equal of the same dimensions and coloring.

After completion of the utility or lighting work, the Contractor shall re-install the pavers. The pavers are to be installed on a base of 6" of gradation 3 crushed aggregate. Subgrade and base shall be graded such that the pavers will be installed at an even grade between the existing sidewalk and curb and be flush with adjacent pavers. Once set, the open areas of the pavers are to be filled with topsoil and seeded. The top of the topsoil shall be just below the top of the paver, approximately 1/4", so that the cells of the paver will hold the grass seed.

All excavation and base material and base preparation are included with this bid item.

### **METHOD OF MEASUREMENT**

Remove and Reset Open Celled Pavers shall be measured by the square foot acceptably installed.

### **BASIS OF PAYMENT**

Remove and Reset Open Celled Pavers, measured as provided above, shall be full compensation at the contract unit price for all materials, equipment, labor, hauling, finishing and incidentals necessary to complete the work as provided in the description.

## **BID ITEM 90025 – GRADING, PLAZA**

### **DESCRIPTION**

This item shall include all work, equipment, hauling and incidentals necessary to remove miscellaneous surface materials and grade the plaza area (bounded by Monroe St., Breese Terrace, and Regent St.) to the appropriate elevations as shown in the plans and details.

All concrete and tree removals will be paid under the appropriate bid items. Removal of asphalt, miscellaneous landscaping, including plantings, boulders, walls and other items is included with this bid item. At a minimum, all removals shall be such that it will allow for installation of 6" of topsoil and sod or 7" concrete sidewalk or any other surface treatment to be installed at the designed surface elevation in accordance with the standard specifications or these special provisions. Additional excavation for other items including bioretention, walls, foundations, curbs, etc. shall be considered incidental to those items of work.

Salvage any items with commemorative plaques.

## **METHOD OF MEASUREMENT**

Grading, Plaza shall be measured by the Lump Sum.

## **BASIS OF PAYMENT**

Grading, Plaza, measured as provided above, shall be full compensation at the contract unit price for all materials, equipment, labor, hauling, finishing and incidentals necessary to complete the work as provided in the description.

## **BID ITEM 90026 – GRADING, WINGRA PARK ENTRANCE**

### **DECIPTION**

This item shall include all work, equipment, hauling and incidentals necessary to remove miscellaneous surface materials and grade the Wingra Park entrance area (located at 2425 Monroe St.) to the appropriate elevations as shown in the plans and details. The limits of the work are from the Monroe St. sidewalk to approximately 50 ft. into the park.

All concrete and tree removals will be paid under the appropriate bid items. Removal of asphalt, miscellaneous landscaping, including plantings, boulders, walls and other items is included with this bid item. At a minimum, all removals shall be such that it will allow for installation of 6" of topsoil and sod or 7" concrete sidewalk or any other surface treatment to be installed at the designed surface elevation in accordance with the standard specifications or these special provisions.

Additional excavation for other items including bioretention, walls, foundations, curbs, etc. shall be considered incidental to those items of work. This includes grading operations for planting areas and shovel cutting the edges of planting beds at the locations indicated on the plans.

## **METHOD OF MEASUREMENT**

Grading, Wingra Park Entrance shall be measured by the Lump Sum.

## **BASIS OF PAYMENT**

Grading, Wingra Park Entrance, measured as provided above, shall be full compensation at the contract unit price for all materials, equipment, labor, hauling, finishing and incidentals necessary to complete the work as provided in the description.

## **SITE SPECIALTY ITEMS AND LANDSCAPING, GENERAL**

**To be used for reference by Bid Items 90027 through 90059.**

### **Field Measurement and Verification**

The Contractor and all subcontractors will be responsible for continually reviewing and evaluating field conditions and constructions and verifying that grades, dimensions, tolerances and connections between all disciplines and all constructions are in accordance with the drawings and will result in a high-quality project.

Contractors and suppliers/manufacturers will be required to work independently and with one another to coordinate with adjacent work, verify all materials, confirm structural integrity of the work, continuously



verify field measurements and field construction criteria related thereto, check and coordinated the information contained in submittals and shop drawings, and produce mock-ups and final construction in conformance with the requirements of the contract documents.

#### Limestone Standards

Limestone Testing: Limestone shall be tested by a laboratory certified by the State of Wisconsin for the following Standard Methods of Testing Dimensional Stone: modulus of rupture (ASTM C99) for wet and dry condition; compressive strength (ASTM C-170) for wet and dry conditions; and absorption (ASTM C-97). Samples submitted for testing shall be indicative of the type and size for each material that will be used on the project. Test results shall demonstrate that the stone meets the requirements outlined in this Section and is suitable for custom-fabricated landscape pieces for vertical and horizontal installations in exterior environments with exposure to weathering.

All limestone used on the project shall conform to the following minimum material standards and specifications:

Material Standards: Comply with ASTM C 568/C568 M. Stone must meet or exceed requirements set forth for the classifications listed in this Section.

Classification: Type II (Medium Density) allowed, Type III (High Density) preferred.

Description: Dolomitic.

Source Control: All limestone shall be supplied and custom finished/fabricated by a single supplier for each specialty item listed in this document.

#### Limestone Material and Construction Requirements

##### ***Limestone Veneer***

Limestone with warm tan and gold body colors, no mottled, veiny or splotchy accents and which closely matches the existing historic walls in the UW-Madison Arboretum (location provided upon request). Basis of Design: 'Honey Brook Buff Blend' with L-cut units for all corners by Madison Block and Stone (Contact 608-219-1970, Rep. Tony Callies), or approved equal. Full depth masonry stone veneer, 4" depth +/- 1". Rockfaced and tumbled finish for exposed edges; sawn top and bottom; split ends. Provide sample for final finish selection.

##### ***Limestone Cap***

Limestone with warm tan and gold body colors, no mottled, veiny or splotchy accents and which closely matches the existing historic walls in the UW-Madison Arboretum (location provided upon request). Basis of Design: 'Honey Brook Buff Blend' by Madison Block and Stone (Contact 608-219-1970, Rep. Tony Callies), or approved equal. 3" thick for seatwalls and retaining walls; 5" thick for pillar caps. Rockfaced finish for exposed sides/edges; Smooth, sanded top and bottom.

##### ***General Construction Requirements for All Limestone Veneer***

Limestone veneer units shall be delivered in good condition free from shipping damage. Protect from damage after delivery to construction staging area and/or site. At all times, handle units to prevent damage; chipped, cracked, or otherwise damaged units will be replaced at no additional cost to the Owner.

Examine areas to receive limestone veneer for compliance with requirements and conditions affecting installation and performance of the work. Proceed with installation only after unsatisfactory conditions have been corrected.

Protect structures, utilities, pavements, and other improvements, planting beds, and turf areas from damage caused by installation.

Perform necessary field cutting and trimming as stone is set using power saws. Cut lines straight and true, with edges eased slightly to prevent snipping.

Set stone to comply with requirements indicated on Drawings. Install in pattern to closely match existing historic walls in the UW-Madison Arboretum (location provided upon request), with anchorage indicated or necessary to secure stone masonry in place. Set stone accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances.

Provide and install L-cut corners for all corner construction; cut or mitered corners are not acceptable.

For vertical lines and surfaces, do not exceed 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch in 40 feet or more. For external corners and other conspicuous lines, do not exceed 1/4 inch in 20 feet or 1/2 inch in 40 feet or more.

For bed joints and other conspicuous lines, do not exceed 1/4 inch in 20 feet or 1/2 inch in 40 feet or more.

Maintain uniform joint widths of not less than 3/8 inch or more than 1/2 inch at widest points.

Install flashing at veneer ledges or other obstructions to downward flow of water in wall. At backing, extend flashing through stone masonry, turned up a minimum of 8 inches and insert in reglet. Extend flashing 1/2 inch beyond masonry face at exterior, and turn flashing down to form a drip. Exposed metal flashing edges shall be hemmed.

Rake out joints for pointing with mortar to depth of not less than 1/2 inch before setting mortar has hardened. Rake joints to uniform depths with square bottoms and clean sides. Point stone joints by placing and compacting pointing mortar in layers of not more than 3/8 inch deep. Compact each layer thoroughly and allow to it become thumbprint hard before applying next layer.

Tool joints, when pointing mortar is thumbprint hard, with a smooth jointing tool to produce smooth, flat face recessed 1/4 inch below edges of stone (raked joint).

Remove and replace stone veneer of the following description: Broken, chipped, stained, or otherwise damaged stone; defective joints; veneer not matching approved samples and mockups or not complying with other requirements indicated.

Replace in a manner that results in stone veneer matching approved samples and mockups, complying with other requirements, and showing no evidence of replacement.

Clean stone as work progresses. Remove mortar fins and smears before tooling joints. After mortar is thoroughly set and cured, clean by removing large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels. Finish final cleaning by bucket and brush hand-cleaning method described in BIA Technical Note No. 20, Revised II, using job-mixed detergent solution.

#### Mosaic Tile Panels and Construction Requirements

##### ***Mosaic Tile Panels***

Individual mosaics or multiple sections of each mosaic will be supplied by the mosaic designer. Contractor will be responsible for pick-up at the mosaic designer's studio, which is within approximately 30 miles of the project site, for loading, delivery, and unloading and storing (if necessary) at the project site.

Size and dimensions of the final mosaic installations may vary but will generally conform to the size of the precast concrete panels indicated in the Drawings.

Mosaic tile sections may be provided in smaller sections and stitched together in the field to facilitate installation; this is at the discretion of the mosaic designer.

Mosaic Designer: Mosaics will be constructed by artist Marcia Yapp, (608) 243-8988.

***Mosaic Construction Requirements***

Provide experienced journeymen competent in setting variable-material mosaic tile installations in exterior applications and at the general sizes of this project. Provide journeymen familiar with ANSI tile and related material specifications and standards and the Tile Council of America requirements. Submit to the engineer a list of a minimum of three (3) references, including client contact information, project description, project size and project cost installed by the same journeymen as will be working on the project. In order to qualify as a reference, the project must have been constructed in Wisconsin or the upper Midwest in the past five (5) years.

Coordinate with City Representatives and mosaic designer to perform field layout of mosaics, to facilitate supervision by the City Representatives and mosaic designer during installation and to initiate final review and acceptance by the City of Madison.

Pick up and deliver the mosaic tile installations to the project site. The mosaics can be picked up within 30 miles of the project site. During transit secure the mosaic tiles to prevent damage to the tiles. Store the mosaics at a secure location at the project site until installation is complete to prevent damage to the mosaics.

Ensure all precast concrete has been constructed to the tolerances indicated in the drawings and in such a manner that will allow installation of the mosaics. Report any discrepancies or faulty concrete conditions to a City Representative immediately and do not proceed with installation of mosaic tile materials until any and all unsatisfactory conditions have been corrected.

Produce mortar adhesives and grouts in full increments according to manufacturer's written mixing instructions.

Produce consistent colored mortar adhesives and grouts. Once placement has started, maintain consistent amounts, types, and source of materials without exception. If multiple units are used, blend batches of product to avoid dye lot differences and maintain consistency.

Determine proper trowel size and style by measuring mosaic tile thickness.

Schedule materials placement to minimize exposure to rapid drying conditions such as wind and full sun. Do not place adhesives, grout or sealant if rain, snow, or temperatures below 50 degrees Fahrenheit are forecast within 48 hours after final placement.

Cover and protect all adjacent construction, concrete, concrete stain, and railing from discoloration and spillage during placement and curing of mosaic tile installations. Clean and correct any adjacent construction as a City of Madison Representative directs at no expense to the City.

Coordinate with the mosaic designer once mosaics have been delivered to the project site to ensure the design and layout matches the installation intent.

Scour concrete with a wire brush prior to applying waterproof, anti-fracture membrane in order to remove contaminants, dust and dirt, or other materials which could interfere with bonding.

Apply waterproofing, anti-fracture membrane to concrete framework, following all manufacturers' installation instructions for preparation, application and cure time.

Firmly apply the mortar adhesive onto the waterproof substrate and using additional adhesive setting material, comb the notches full to establish the proper depth of setting mortar bed.

Locate the joint locations for the mosaic tile area for any installations exceeding 8 linear feet, measured horizontally. Locate joints a maximum of every 8-feet or at equal increments. For example, an installation measuring 16 feet in length will have a single vertical expansion joint located at 8 feet from either end; an installation measuring 15 feet will have a single vertical expansion joint located 7.5 feet from either end; an installation measuring 19 feet will have two vertical expansion joints located at 6'-4" apart. Provide space for a 3/8" wide expansion joint at the joint location. Lay tile starting at the joint location, installing outward toward the edges in both directions.

Apply mosaics using even pressure to establish contact. Tap as necessary to achieve a uniform, flat surface firmly embedded into the mortar bed. Line up adjacent tile sheets/patterns and repeat the installation, tapping sheets from one sheet to the next.

Adjust mosaic tile joints while tile tape or backing is in place and mortar has not set.

Installations may require small amounts of stitching at the edges of two adjacent but separate sheets. Small portions of tile may need to be added to the design during construction and stitched into these interstitial areas. Coordinate any stitching with the mosaic designer in the field.

Allow to set for a minimum of 12 hours to allow mortar to set adequately before removing mosaic tile backing; confirm appropriate timing and methodology with the mosaic designer.

Re-attach any tiles that come loose during the tile sheet/tile tape removal process.

Fill the expansion joint at the centerline location of the installations, if required, with a single, smoothed, concave line of caulk.

Fill the vertical and horizontal joints around all outside edges of all installations with a single, smooth, concave line of caulk.

Apply grout in accordance with the grout manufacturer's specifications and based on the specific constraints of the project and individual mosaic layouts and materials. Construct grout joints that are full and uniformly finished.

Remove all residual films prior to curing. Provide initial and final cleaning according to manufacturer's written instructions for specific products used.

After completing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component. Remove excess materials from the site.

#### Concrete, Reinforcing and Aggregate Base

All concrete, including reinforcing, listed as an item or incidental to the site specialty items on the project shall conform to the following minimum material standards and construction requirements:

***Concrete Flatwork for Site Specialty Items:***

Conform all concrete materials and construction for concrete flatwork, with the exception of the colored/textured concrete, to the City of Madison Standard Specifications for Public Works Construction, Part III "Concrete and Concrete Structures", current edition.

***Cast-In-Place Concrete for Footings and Site Specialty Items:***

Wisconsin Department of Transportation, Standard Specifications for Highway and Structures Construction (SSHSC), Current Edition, Sections 501.

Unless otherwise noted, provide Type I (General Purpose) with the following:

- Fly Ash: ASTM C 618, Class C
- Normal-Weight Aggregates: ASTM C 33, Class 4S, uniformly graded from a single source.
- Lightweight aggregates: ASTM C 330
- Potable Water: ASTM C 94/C 94M
- Air-Entraining Admixture: ASTM C 260. 6% air entrainment to deal with freeze-thaw conditions.
- Chemical admixtures, curing materials, and miscellaneous materials only as approved by the Engineer.

***Footings:*** Design mix to provide normal weight concrete with the following properties:

- Min. Compressive Strength (28 days): 3000 psi
- Maximum Aggregate Size: 1.5-inches.
- Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.68
- Air Entrainment (+/- 1/2%): None
- Maximum Replacement of Portland Cement with Fly Ash: 25 percent

***Stairs, Foundation and Walls:*** Design mix to provide normal weight concrete with the following properties:

- Min. Compressive Strength (28 days): 4000 psi
- Maximum Aggregate Size: 0.75-inches.
- Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.5
- Air Entrainment (+/- 1/2%): 6%
- Maximum Replacement of Portland Cement with Fly Ash: 25 percent
- Provide, at Contractor's option, a super plasticizer to the mix.

***Finish:*** Finish for any exposed (visible) cast-in-place concrete is called out in the Drawings; refer to drawings and approved mock-ups for final finish of concrete elements for this project.

***Reinforcement:***

Provide reinforcing in conformance with the Wisconsin Department of Transportation, Standard Specifications for Highway and Structures Construction (SSHSC), Current Edition, Sections 505. All reinforcing shall be epoxy-coated.

Ensure all reinforcing is installed a minimum of 3-inches clear of all outside surfaces of concrete construction.

***Aggregate:***

Provide "Standard Gradation 3" in accordance with the City of Madison Standard Specifications or "Base Aggregate Dense 3/4-Inch per the Wisconsin Department of Transportation, Standard Specifications for Highway and Structures Construction (SSHSC), Current Edition, Section 305 for aggregate base as indicated in the plans and through approved shop drawings.

**Geotextiles:**

Provide geotextiles for subgrade separation and stabilization, drainage filtration, and subgrade reinforcement in conformance with the Wisconsin Department of Transportation, Standard Specifications for Highway and Structures Construction (SSHSC), Current Edition, Sections 645. If type of geotextile (also referred to as 'filter fabric') is not indicated in the Section or on the drawings, provide RFI to Engineer for review and response prior to construction.

**Mockups**

Build mock-ups off-site to verify appropriate materials, cross sections, color selections made, subbase and base course preparation, to demonstrate aesthetic effects and to set quality standards for materials and execution. Mockups must be reviewed and approved by the City or a Representative of the City prior to proceeding with future installations.

Approved mockups may become part of the completed work if undisturbed at the time of substantial completion.

Build the following mock-ups, at a minimum, and any others deemed necessary by City Representatives during the course of construction:

- 5' x 5' flatwork panel for Poured In Place Playground Surface
- 2' x 2' flatwork panel for Colored and Textured Concrete, 7-Inch
- 2' x 2' vertical panel of concrete demonstrating finish for mosaic walls.
- Full-scale, single Stone Veneer Pillar as the standard for all stone veneered elements.
- Full-scale mockup of utility enclosure and light box, not set into the concrete wall, and for mockup purposes to review overall size general connections; elements can be disassembled after mockup review and approval and used in the actual concrete wall construction if undamaged at that time.

**Shop Drawings and Sample Submittals:****Sample Submittals**

*Integrally Colored Concrete Materials (precast and cast-in-place):* Provide a minimum 6" x 6" or 6" round 'puck' for all integrally colored concrete or precast concrete for final review and approval prior to ordering or using on the project.

*Concrete Stains:* Formulate a minimum 6" x 9" concrete sample with stain applied, indicative of concrete material used as the base, stain color, stain application rate, and/or any other application or finish to indicate the final colors and finishes that will be produced for the project.

*Other:* Provide any and all other sample submittals indicated in individual Sections of the Project Documents.

**Shop Drawings**

All shop drawings and sample submittals shall be reviewed by the General Contractor for conformance with all requirements prior to being sent to the City or City Representative for final review and approval.

Where concrete footings or walls are indicated in the plan details, pay special attention to providing information related to all reinforcing (regardless of whether or not reinforcing is indicated in the plans) to conform to industry standards, including: bending steel, radii, and bar overlap. Final reinforcing location, type and size will be approved through the shop drawing process for each individual item.

Shop drawings shall consist of (as applicable), details of the concrete base and reinforcing; sizes, profiles, coursing and location of concrete masonry units (CMU); sizes, profiles, details of the limestone veneer indicating method of fastening to the CMU or cast-in-place concrete core and any flashing or drip edge

locations, types, sizes, etc.; details of the limestone cap indicating notches, pins, mortar joints, finishes; elevation of the stone veneered element(s) indicating limestone color blend, pattern, size of individual units, mortar joint size/spacing/color; details of the reliefs for any recessed or protruding panels; details for the lighting and glass elements, LED lighting fixtures (manufacturers cut sheet, color ranges, etc.), conduit(s) and connections; details of the mosaic tile installations; details of any hardware required to produce solid connections and to fasten or secure all lighting, glass and/or tile elements; and details or elevations of all other materials, components, or constructions.

By accepting submitted, approved shop drawings, the Contractor represents that he has determined and verified all materials, structural integrity, field measurements and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the work and of the contract documents.

The Contractor shall not be relieved of responsibility for any deviation from the requirements of the contract documents by the Engineer's approval of shop drawings unless the Contractor has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the shop drawings, product data or samples by the Engineer's approval thereof.

The Contractor shall direct specific attention, in writing or on resubmitted shop drawings, product data or samples, to revisions other than those requested by the Engineer on previous submittals.

No portion of the work requiring submission of a shop drawing shall be commenced until the submittal has been approved by the Engineer.

Contractors shall submit two prints of all shop drawings every time a submission is made until final approval is received.

Drawings submitted shall be marked with the name of the project, numbered consecutively and bear the stamp of approval of the Contractor as evidence that the drawings have been checked by the Contractor. Any drawings submitted without this stamp of approval will not be considered and will be returned to the Contractor for resubmission.

Provide Shop Drawings for the following items, at a minimum, and any others deemed necessary by City Representatives during the course of construction:

- Cast In Place Curbwall (separate shop drawings for each different type)
- Stone Veneer Sculpture Base
- Stone Veneer Seat Wall
- Stone Veneer Retaining Wall
- Concrete Seat Wall (separate shop drawings for each different type)
- Mosaic Wall
- Precast Mosaic Panels (separate shop drawings for each unit)
- Stone Veneer Pillar
- Drinking Fountain, including details of the drinking fountain unit; water supply line(s) and wastewater line(s); all valves, shut-offs, backflow preventers, etc. required from point of water source connection through the entire lateral system and connected to the unit; any and all other materials or constructions required for a complete and serviceable installation. If manufacturer includes optional equipment (seasonal cover, hose bib with locked cover, etc.), present options through the Shop Drawing process for Owner Review and acceptance. All work shall conform to applicable local, state, and national plumbing codes and be specific to products of this nature installed in exterior environments subject to freeze-thaw conditions

## **BID ITEM 90027 – POURED IN PLACE PLAYGROUND SURFACING**

### **DESCRIPTION**

This bid item shall be performed by a Contractor prequalified in Category 399: Poured-In-Place Playground Surfacing Installer. All work under this bid item shall consist of furnishing and installing poured in place playground surfacing and in accordance with the manufacturer's written instructions, as shown on the plans, and as hereinafter provided.

### **MATERIALS**

#### ***Seamless Surface Wearing Course and Basemat***

Poured in place playground surfacing system with a Wearing Course of recycled post-industrial EPDM rubber and polyurethane and a Cushion Layer (shock absorbing layer) of 100% post-consumer recycled SBR and polyurethane. Provide manufacturer's standard thickness for each layer as required for overall thickness indicated, test for attenuation per ASTM F 1292 and for accessibility per ASTM F 1951.

Proposed playground surfacing products must meet the following criteria:

- Must carry a minimum ten (10) year limited warranty;
- Must carry IPEMA Certification to ASTM F1292 standard for critical fall heights;
- Seamless surface course of recycled EPDM rubber no less than 0.5" applied depth.
- Basemat or cushion base shall be post-consumer recycled Styrene Butadiene Rubber (SBR) no less than 3.5" applied depth.

#### ***Binder***

Weather-resistant, UV-stabilized, flexible, nonhardening, aliphatic (non-yellowing), 100 percent solids polyurethane complying with requirements of authorities having jurisdiction for nontoxic and low VOC content.

#### ***Primer/Adhesive***

Manufacturer's standard primer and weather-resistant, moisture-cured polyurethane aliphatic (non-yellowing) adhesive suitable for unit, substrate, and location indicated.

#### ***Basis of Design***

"PlayBound" Poured In Place Surface by Surface America ([www.surfaceamerica.com](http://www.surfaceamerica.com), 800-999-0555), or approved equal.

Critical Height: 3 feet or as indicated on drawings.

Overall Thickness: 4" minimum and not less than as required for critical height indicated or as indicated on drawings.

Wearing Course Color(s): 50% bright green / 50% black. ***Final mix subject to approval by a City Representative.***

Filler/Sealant: Manufacturer's standard clear silicone or non-yellowing polyurethane filler/sealant suitable for exterior use.

Provide surfacing that meets the following standards:

Gmax: Less than 200

Head Injury Criteria: Less than 1000

Flammability (ASTM D2859): Pass

Tensile Strength (ASTM D412): 60 psi



1. Tear Resistance (ASTM D624): 140%
2. Water Permeability: 0.4 gal/yd2/second

Accessibility: Comply with requirements of ASTM F1951-14 and ASTM F1292-13

Dry Static Coefficient of Friction (ASTM D2047): 1.0

Wet Static Coefficient of Friction (ASTM D2047): 0.9

Dry Skid Resistance (ASTM E303): 89

Wet Skid Resistance (ASTM E303): 57

Mixes: Required mix proportions by weight per manufacturer's standards:

### ***18-Inch Concrete Band (Poured-In-Place Concrete)***

Provide concrete in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base"; specific mixture design (including admixtures and any/all other materials) must be submitted to the City Engineer for review and approval prior to use on the project.

Provide cylinder testing for all concrete materials.

### ***Aggregate Base***

Provide aggregate in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base".

### ***Reinforcing***

Provide reinforcing in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base".

### ***Shop Drawing Submittals***

Provide shop drawings for the Poured In Place Playground Surface. Drawings shall consist of details and indicate the product installation for this specific location, method of fastening or installing, each different edge treatments or condition, and any other materials or constructions necessary to convey the full intent of the installation for the site-specific conditions of this project. Shop drawings shall be reviewed and approved by the Engineer prior to use on this project.

## **CONSTRUCTION**

Conform all installations to ASTM F1292, "Standard Specification for Impact Attenuation of Surfacing Materials within the Use Zone of Playground Equipment" for critical heights stated and implied by the layouts and installations of this project.

Poured In Place Playground Surface shall be manufactured and installed by trained, experienced company employees or certified installers who have successfully completed the "Certification Installers Training Program" offered or required by the manufacturer.

Contractor shall order surfacing material for delivery from the proposed poured-in-place playground vendor to the Contractor's pre-determined receiving location. The Contractor shall provide equipment and labor for loading, trucking and off-loading as needed. Contractor is responsible for securing all deliveries and insuring the completeness of the poured-in-place playground surfacing order prior to installation.

Coordinate closely with other contractors working on the installation of adjacent materials or constructions to ensure seamless installation of all materials, timeliness of installation and to field verify that all edges for the poured-in-place playground surfacing are in place, properly constructed and to

grades indicated in drawings, and have fully cured or been installed prior to mobilizing and installing surfacing.

General Preparation: Prepare substrates to receive surfacing products per surface system manufacturer's written instructions. Verify that substrates are sound and without high spots, ridges, holes, and depressions. Do not proceed with installation until all unsuitable conditions are corrected.

Proper drainage is critical to the longevity of the poured in place surface. Contractor shall specifically confirm positive drainage in all areas to receive the Poured in Place Playground Surfacing. Engineer shall review subsurface and crushed stone base course preparation and drainage prior to the Contractor installing the work.

Provide cast-in-place concrete band as the edge condition as indicated in the Drawings. Ensure that band has been installed and fully cured before installing the adjacent poured-in-place surfacing profile.

Prior to placement of playground surface, install the Sculpture Foundation (paid under bid item 90059). Ensure that the footings have fully cured before installing the adjacent poured-in-place surfacing.

Compacted Aggregate Base: Tolerance shall be within 3/8" in 10'. Compact aggregate subbase to 90% standard proctor density. Test aggregate base compaction and provide testing results to the Engineer demonstrating that the prepared base complies.

Mix and apply components of poured in place surface system per manufacturer's written instructions.

The poured-in-place playground surfacing shall be installed per the manufacturer's installation instructions to a depth of 4" for the entire playground surface, to include 1/2" of surface/wear layer and 3.5" of cushion base. Quantities identified in the proposal page have been calculated for installation of four (4) inches of poured-in-place surfacing.

Edge Treatment: Flush or as indicated in Drawings.

Protect poured in place surface from damage resulting from all subsequent construction activity on site.

Double handling, stockpiling and placing poured-in-place surfacing shall be incidental to this bid item.

#### **METHOD OF MEASUREMENT**

Poured In Place Playground Surfacing, completed in accordance with the contract, will be measured by the square foot to the interior edge of the concrete edging, acceptably completed.

#### **BASIS OF PAYMENT**

Poured in Place Playground Surfacing, as measured above, is full compensation for providing all materials necessary to completely install the surfacing, including all subbase preparation, base course aggregate, cast-in-place concrete edging (18" concrete edge), rubberized surface base and wearing courses, binders, sealers, jointing materials and other accessory materials required for a seamless, durable installation; and for all labor, tools, equipment and incidentals necessary to complete the work.

#### **BID ITEM 90028 – TREE PROTECTION FENCE**

## **DESCRIPTION**

This special provision describes furnishing and installing Tree Protection Fence as shown on the plans and as hereinafter provided prior to the start of construction and maintaining the fencing in place until final landscape restoration work commences.

## **MATERIALS**

### ***Fence***

Provide high visibility heavy-duty plastic mesh fencing, also known as "orange plastic safety fencing" or "construction fencing."

### ***Stakes***

Provide 14 ga. galvanized, u-channel fence posts, min. 60-inch length with bottom flanges and green PVC coating. Stakes from Contractor's surplus may be utilized for this project provided that they meet the requirements listed and are in good working condition (not bent, rusting, etc).

## **CONSTRUCTION**

Refer to City of Madison Standard Spec 107.13, "Tree Protection".

Install Tree Protection Fence along edges of protection zones in a manner that will prevent people and equipment from easily entering protected area. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.

Erect fence before any construction activities commence and preserve in place until construction has concluded. Install and remove without harm to trees, shrubs, bark mulch bed(s) or other landscape materials or signage. If any landscape areas are disturbed or damaged, notify the City immediately.

Set or drive posts into ground at 8'-0" o.c. minimum, or closer as necessary to maintain the integrity of the installed fence and to form corners or directional changes in fencing. Where a post is located on existing pavement or concrete to remain, provide appropriate means of post support acceptable to the City.

Maintain Tree Protection Fence in good condition as acceptable to the City Engineer and remove only when construction operations are complete, equipment has been removed from the site, and final site and landscape restoration is underway.

If trees with the tree protection fence are damaged, contact City Representatives immediately and document the extent of damage. The Contractor will be required to repair or replace damaged trees or plant material or compensate the City in a manner consistent with the tree protection section of the Standard Specifications. A City Representative will make the final determination on whether replacement or monetary compensation will be sought based on the type of damage, extent of damage and overall impact to the project.

## **MEASUREMENT**

Tree Protection Fence, completed in accordance with the contract, will be measured by the linear foot (LF), acceptably completed.

## **BASIS OF PAYMENT**

Tree Protection Fence, as measured above, is full compensation for providing, handling, and storing all material; for preparing the site, installation, and maintenance of the fence and stakes; for furnishing and installing all materials and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work

**BID ITEM 90029 – CAST IN PLACE CURBWall**

**BID ITEM 90030 – CAST IN PLACE CURBWall WITH SPREAD FOOTING**

**DESCRIPTION**

This special provision describes furnishing and installing two (2) different types of cast-in-place concrete curbwalls indicated in the drawings as: Cast In Place Curbwall and Cast in Place Curbwall with Spread Footing. Curbwalls shall be constructed of cast-in-place concrete, as shown on the plans, and as hereinafter provided including shop drawings and mockups.

**MATERIALS**

***Concrete***

Provide concrete in conformance with Section, “Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base”; specific mixture design (including admixtures and any/all other materials) must be submitted to the City Engineer for review and approval prior to use on the project.

Provide cylinder testing for all concrete materials.

***Aggregate Base***

Provide aggregate in conformance with Section, “Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base”.

***Reinforcing***

Provide reinforcing in conformance with Section, “Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base”.

**CONSTRUCTION**

Examine areas adjacent to Curbwalls for compliance with requirements and conditions affecting installation and performance of the work. Proceed with installation only after unsatisfactory conditions have been corrected.

Provide materials and labor for constructing all excavations, base preparation/installation, foundation preparation/installation and backfilling.

Protect structures, utilities, pavements, and other improvements, planting beds, and turf areas from damage caused by Curbwall installation.

**METHOD OF MEASUREMENT**

Cast In Place Curbwall (Type), completed in accordance with the contract, will be measured by the linear foot (LF), acceptably completed.

**BASIS OF PAYMENT**

Cast In Place Curbwall (Type), as measured above, is full compensation for providing cast-in-place concrete, reinforcing and aggregate base; for any miscellaneous materials required to complete the work in the approved fashion; for excavating and preparing the base and foundation; backfilling and disposing of surplus material; for placing, finishing, protecting, and curing; and restoring the work site and for all labor, tools, equipment and incidentals necessary to complete the work.

Adjacent concrete pavements, specialty pavements, planting beds or lawns will be paid separately.

#### **BID ITEM 90031 – STONE VENEER SCULPTURE BASE**

##### **DESCRIPTION**

This special provision describes furnishing and installing the stone veneer sculpture base constructed of veneered limestone on cast-in-place concrete base and backing as show on the plans, and as hereinafter provided including shop drawings and mockups.

##### **MATERIALS**

###### ***Concrete***

Provide concrete in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base"; specific mixture design (including admixtures and any/all other materials) must be submitted to the City Engineer for review and approval prior to use on the project.

Provide cylinder testing for all concrete materials.

###### ***Aggregate Base***

Provide aggregate in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base".

###### ***Reinforcing***

Provide reinforcing in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base".

###### ***Limestone Materials***

Provide limestone veneer and cap in conformance with, "Site Specialty Items and Landscaping, General / Limestone Material and Construction Requirements".

###### ***Integrally Colored Precast Concrete Cap***

###### ***Precast Concrete:***

High density, wet-cast, precast concrete sections with reinforcing meeting the following performance requirements:

Compressive Strength: 5,000 psi

Air Content: 6-8%

Water-Cement Ratio: 45:1

Portland Cement: ASTM C-150.

Aggregates: Utilize standard aggregates. All aggregates must meet ASTM C-33 specifications, cleaned and properly graded to size; aggregates shall be blended to meet individual project requirements.

Coloring Pigments: Integral to mixture, inorganic, resistant to alkalinity and used per manufacturer's recommendations.

Reinforcement and Hardware: Conform to American Concrete Institute (ACI) recommendations, manufacturer's design, and approved shop drawings. Reinforce precast concrete with deformed rods or wire or both.

Concrete Sealer: Provide colorless, pure acrylic water-repellent penetrating sealer. Sealer shall maintain the natural look of the concrete surface with no glaze or gloss, darkening or color change.

Caulks and Sealants: Where applicable, provide urethane or polyurethane sealants; color to be selected by Landscape Architect from manufacturer's standard color palette.

Size Tolerances: Construct all pieces to conform to approved shop drawings with a 1/16" tolerance in any dimension.

Color Family: Dark Brown-Bronze Range.

Color and Texture: Final color shall be determined through sample submittal and approval process. Final texture shall be selected from manufacturer's full range of textures available for precast concrete; provide samples of a minimum of three textures (acid wash, weather stone and smooth-cast) to select from.

Comply with specified provisions and recommendations of the Precast/Prestressed Concrete Institute (PCI).

Precast concrete manufacturer and trade contractor must have a minimum of 5 years of successful experience on projects of similar magnitude and complexity to that indicated in this project. Provide precast by one of the following manufacturers or approved equal:

Wausau Tile (Contact: Jeff Gramling, 715-359-5441)

Stonecast Products (Contact: Paul Clouse, 262-253-6600)

### ***Mortar***

ASTM C 150, Type I or II, except Type II may be used for cold-weather construction. Color: Utilize SGS Mortar Color (or approved equal) to custom color joints in the field to make mortar joints look aged to match nearby stone wall construction at the UW-Madison Arboretum (exact location of existing walls can be provided upon request).

### ***Flashing***

Provide stainless steel flashing, type 304, .016" thick.

### ***Adhesive***

Supply a construction adhesive that is chemical resistant and suitable for exterior vertical and horizontal applications in all environments. Provide a product that contains antimicrobial protection against mold and mildew.

Provide a product that meets or exceeds ANSI A 118.4 Shear Bond Strength Requirement and ANSI A118.11 and conforms to ISO 13007 with a classification of C2TES1P1.

Ensure the adhesive is compatible with concrete substrate and metal sculpture material(s).

Color: Use a standard clear or light-brown colored adhesive.

Submit all adhesive product data to a City Representative for review and approval prior to use.

### ***Metal Sculpture***

The "Anchorlily" sculpture will be supplied by a metalsmith/designer. Contractor will be responsible for pick-up at the metalsmith's studio or current location within the City of Madison municipal limits and for loading, delivery, and unloading and storing (if necessary) at the project site. Contractor will be responsible for delivery of the sculpture un-damaged.

Size and dimensions of the sculpture is approximately 6' x 10' x 5' and weighs under 200 lbs.

Metalsmith / Designer: William Grant Turnbull, The Paradigm Forge, (608) 381-1916.

## **CONSTRUCTION**

Form and pour cast-in-place concrete base with reinforcing making sure reinforcing is min. 3" clear, all outside edges, in accordance with the special provision for cast-in-place concrete and the drawings. Ensure that concrete base is fully cured prior to beginning work on the veneer application.

Provide materials and labor for constructing all excavations, base preparation/installation, foundation preparation/installation and backfilling.

Contractor shall coordinate with metalsmith of the "Anchorlily" sculpture for proper installation of the sculpture on the sculpture base.

Refer to "Site Specialty Items and Landscaping, General / Limestone Material and Construction Requirements" for overall construction requirements for limestone materials.

## **METHOD OF MEASUREMENT**

Stone Veneer Sculpture Base, completed in accordance with the contract, will be measured as a lump sum, acceptably installed.

## **BASIS OF PAYMENT**

Stone Veneer Sculpture Base, as measured above, is full compensation for providing cast-in-place concrete, reinforcing and aggregate base for the footings, for the limestone veneer and all accessory anchors, for flashings and materials, for all mortars and setting compounds, for the finished precast concrete cap, for any miscellaneous materials, anchors, and hardware required to complete the work in the approved fashion; for excavating and preparing the base and foundation; backfilling and disposing of surplus material; for placing, finishing, protecting, and curing; and restoring the work site; and for all labor, tools, equipment and incidentals necessary to complete the work.

Adjacent concrete pavements, walls, specialty pavements, planting beds or lawns will be paid separately.

## **BID ITEM 90032 – STONE VENEER SEAT WALL**

### **DESCRIPTION**

This special provision describes furnishing and installing Stone Veneer Seat Walls constructed of veneered limestone on cast-in-place concrete base and/or CMU backing as show on the plans, and as hereinafter provided including shop drawings and mockups.

### **MATERIALS**

#### ***Concrete Masonry Units (CMU)***

Provide CMUs that comply with TMS 602/ACI 530.1/ASCE 6, modified to reject all masonry units that contain chips, cracks or other defects. Provide shapes indicated in the drawings and special shapes as necessary to complete the work per the drawings and approved shop drawings submittals. Provide units per ASTM C 90 with a minimum compressive strength of 1900 psi.

***Concrete***

Provide concrete in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base"; specific mixture design (including admixtures and any/all other materials) must be submitted to the City Engineer for review and approval prior to use on the project.

Provide cylinder testing for all concrete materials.

***Aggregate Base***

Provide aggregate in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base".

***Reinforcing***

Provide reinforcing in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base".

***Limestone Materials***

Provide limestone veneer and cap in conformance with, "Site Specialty Items and Landscaping, General / Limestone Material and Construction Requirements".

***Mortar***

ASTM C 150, Type I or II, except Type II may be used for cold-weather construction. Color: Utilize SGS Mortar Color (or approved equal) to custom color joints in the field to make mortar joints look aged to match nearby stone wall construction at the UW-Madison Arboretum (exact location of existing walls can be provided upon request).

***Flashing***

Provide stainless steel flashing, type 304, .016" thick.

**CONSTRUCTION**

Form and pour cast-in-place concrete base with reinforcing making sure reinforcing is min. 3" clear, all outside edges, in accordance with the special provision for cast-in-place concrete and the drawings. Ensure that concrete base is fully cured prior to beginning work on the veneer application.

Provide materials and labor for constructing all excavations, base preparation/installation, foundation preparation/installation and backfilling.

Construct mortared CMU core, grouted solid with reinforcing, if contractor elects to use this method.

Refer to "Site Specialty Items and Landscaping, General / Limestone Material and Construction Requirements" for overall construction requirements for limestone materials.

**METHOD OF MEASUREMENT**

Stone Veneer Seat Wall, completed in accordance with the contract, will be measured as a lump sum (LS), acceptably completed.

**BASIS OF PAYMENT**

Stone Veneer Seat Wall, as measured above, is full compensation for providing cast-in-place concrete, reinforcing and aggregate base for the footings and core/backing, for the limestone veneer and all accessory



anchors, for flashings and materials, for all mortars and setting compounds, for the finished limestone caps, for any miscellaneous materials required to complete the work in the approved fashion; for excavating and preparing the base and foundation; backfilling and disposing of surplus material; for placing, finishing, protecting, and curing; and restoring the work site; and for all labor, tools, equipment and incidentals necessary to complete the work.

Adjacent concrete pavements, walls, specialty pavements, planting beds or lawns will be paid separately.

### **BID ITEM 90033 – STONE VENEER RETAINING WALL**

#### **DESCRIPTION**

This special provision describes furnishing and installing Stone Veneer Retaining Walls constructed of veneered limestone on cast-in-place concrete base and core as show on the plans, and as hereinafter provided including shop drawings and mockups. Items necessary for drainage including but not limited to the drainage pipe & fill are included with this item.

#### **MATERIALS**

##### ***Concrete***

Provide concrete in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base"; specific mixture design (including admixtures and any/all other materials) must be submitted to the City Engineer for review and approval prior to use on the project.

Provide cylinder testing for all concrete materials.

##### ***Aggregate Base***

Provide aggregate in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base".

##### ***Reinforcing***

Provide reinforcing in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base".

***Drainage Fill:*** Comply with "Wisconsin Standard Specifications for Sewer and Water Construction" for drainage material, wrapped with Type "DF" geotextile.

##### ***Geotextile and Pipe***

4-inch diameter perforated drainage pipe (perf-pipe), wrapped with Type "DF" geotextile.

##### ***Limestone Materials***

Provide limestone veneer and cap in conformance with, "Site Specialty Items and Landscaping, General / Limestone Material and Construction Requirements".

##### ***Mortar***

ASTM C 150, Type I or II, except Type II may be used for cold-weather construction. Color: Utilize SGS Mortar Color (or approved equal) to custom color joints in the field to make mortar joints look aged to match nearby stone wall construction at the UW-Madison Arboretum (exact location of existing walls can be provided upon request).

### ***Flashing***

Provide stainless steel flashing, type 304, .016" thick.

## **CONSTRUCTION**

Form and pour cast-in-place concrete base and core with reinforcing making sure reinforcing is min. 3" clear, all outside edges, in accordance with the special provision for cast-in-place concrete and the drawings. Ensure that concrete base is fully cured prior to beginning work on the veneer application.

Provide materials and labor for constructing all excavations, base preparation/installation, foundation preparation/installation and backfilling.

Refer to "Site Specialty Items and Landscaping, General / Limestone Material and Construction Requirements" for overall construction requirements for limestone materials.

## **METHOD OF MEASUREMENT**

Stone Veneer Retaining Wall, completed in accordance with the contract, will be measured as a lump sum (LS), acceptably completed.

## **BASIS OF PAYMENT**

Stone Veneer Retaining Wall, as measured above, is full compensation for providing cast-in-place concrete, reinforcing and aggregate base for the footings and core/backing, for the limestone veneer and all accessory anchors, for flashings and materials, for all mortars and setting compounds, for the finished limestone caps, for any miscellaneous materials required to complete the work in the approved fashion; for excavating and preparing the base and foundation; backfilling and disposing of surplus material; for placing, finishing, protecting, and curing; and restoring the work site; and for all labor, tools, equipment and incidentals necessary to complete the work.

Adjacent concrete pavements, walls, specialty pavements, planting beds or lawns will be paid separately.

### **BID ITEM 90034 – CONCRETE SEATWALL ON CONCRETE SLAB**

### **BID ITEM 90035 – CONCRETE SEATWALL WITH BACK**

## **DESCRIPTION**

This special provision describes furnishing three (3) different types of cast-in-place concrete seatwalls indicated in the drawings as: Cast In Place Seatwall on Concrete Slab, Concrete Seatwall with Back and Concrete Seatwall. Seatwalls shall be constructed of cast-in-place concrete, as show on the plans, and as hereinafter provided including shop drawings and mockups.

## **MATERIALS**

### ***Concrete***

Provide concrete in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base"; specific mixture design (including admixtures and any/all other materials) must be submitted to the City Engineer for review and approval prior to use on the project.

Provide cylinder testing for all concrete materials.

### ***Aggregate Base***

Provide aggregate in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base".

### ***Reinforcing***

Provide reinforcing in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base".

### ***Concrete Stain***

Basis of Design: Scofield "Revive" Exterior Concrete Stain, or approved equal.

Color Selections: Provide two separate color options either from manufacturer's standard range or from a combination of standard and custom blends to achieve a gradient of colors across the cool grey spectrum that conform to the general color ranges listed below. Samples shall be in conformance with Section, "Site Specialty Items and Landscaping, General / Shop Drawings and Sample Submittals".

- Light Cool Grey
- Medium Cool Grey
- Medium-Dark Cool Grey
- Dark Cool Grey

Owner's Project representative will review samples and determine final color selections prior to any stain application. Color selections may be custom based on whether or not manufacturer's standard full range can achieve the desired aesthetic.

### ***Skate Deterrents***

Grade 316 stainless steel 'fins', custom fabricated and installed by the Contractor, in conformance with the drawings and the approved Shop Drawings and Mockups.

## **CONSTRUCTION**

Examine areas adjacent to Seatwalls for compliance with requirements and conditions affecting installation and performance of the work. Proceed with installation only after unsatisfactory conditions have been corrected.

Provide materials and labor for constructing all excavations, base preparation/installation, foundation preparation/installation and backfilling.

Protect structures, utilities, pavements, and other improvements, planting beds, and turf areas from damage caused by Seatwall installation.

## **METHOD OF MEASUREMENT**

Concrete Seatwall (Type), completed in accordance with the contract, will be measured as a lump sum (LS), acceptably completed.

## **BASIS OF PAYMENT**

Concrete Seatwall (Type), as measured above, is full compensation for providing cast-in-place concrete, reinforcing and aggregate base and all accessories, including skate deterrents; for any miscellaneous materials required to complete the work in the approved fashion; for excavating and preparing the base and foundation; backfilling and disposing of surplus material; for placing, finishing, protecting, and curing; and restoring the work site; and for all labor, tools, equipment and incidentals necessary to complete the work.

Adjacent concrete pavements, specialty pavements, planting beds or lawns will be paid separately.

## **BID ITEM 90037 – MOSAIC WALL**

### **DESCRIPTION**

This special provision describes furnishing and installing the Mosaic Wall constructed of cast-in-place concrete as show on the plans, including the installation of the mosaic tile designs, glass, lighting elements and as hereinafter provided including shop drawings and mockups. The final height of the wall may be reduced as part of revision, prior to construction. The size of the wall will not increase, but it may include addition height tapers. A reduction in height of the wall will not be considered a compensable change in conditions.

### **MATERIALS**

#### ***Concrete***

Provide cast-in-place concrete in conformance with Section, “Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base”; specific mixture design (including admixtures and any/all other materials) must be submitted to the City Engineer for review and approval prior to use on the project.

Provide cylinder testing for all concrete materials.

#### ***Aggregate Base***

Provide aggregate in conformance with Section, “Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base”.

#### ***Reinforcing***

Provide reinforcing in conformance with Section, “Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base”.

#### ***Concrete Stain***

Basis of Design: Scofield “Revive” Exterior Concrete Stain, or approved equal.

Color Selections: Provide two separate color options either from manufacturer’s standard range or from a combination of standard and custom blends to achieve a gradient of colors across the cool grey spectrum that conform to the general color ranges listed below. Samples shall be in conformance with Section, “Site Specialty Items and Landscaping, General / Shop Drawings and Sample Submittals”.

- Light Cool Grey
- Medium Cool Grey
- Medium-Dark Cool Grey
- Dark Cool Grey

Owner’s Project representative will review samples and determine final color selections prior to any stain application. Color selections may be custom based on whether or not manufacturer’s standard full range can achieve the desired aesthetic.

It’s likely that the final stain selection may not match the gradient that’s shown in the plans, and, if changed, the stain coloring would be modified to be a more uniform coloring.

### ***Glass***

Clear, exterior-grade, tempered glass suitable for the installation detailed in the Drawings and approved through the Shop Drawing and Mockup reviews.

### ***Waterproofing for Tile***

Supply a thin, load bearing waterproofing/anti-fracture membrane suitable for exterior, vertical tile applications that does not require the use of fabric in the field, coves or corners.

Provide a product that will form a flexible, seamless membrane with anti-fracture protection of up to 1/8" over shrinkage and non-structural cracks and that meets or exceeds ANSI A118.10 and A118.12 and is International Association of Plumbing and Mechanical Officials (IAPMO) approved.

Submit all waterproofing, anti-fracture product data for all materials to a City Representative for review and approval prior to use.

### ***Mortar Adhesive for Tile***

Supply a polymer fortified, thin-set mortar adhesive that is chemical resistant and suitable for exterior vertical tile applications in all environments. Provide a product that contains antimicrobial protection against mold and mildew.

Provide a product that meets or exceeds ANSI A 118.4 Shear Bond Strength Requirement and ANSI A118.11 and conforms to ISO 13007 with a classification of C2TES1P1.

Ensure the mortar adhesive is compatible with concrete substrate, waterproof/anti-fracture membrane, grout and mosaic tile materials.

Color: Use white mortar adhesive behind any semi-transparent glass tile mosaics. Any other standard color, as selected by the mosaic designer, maybe be used elsewhere.

Do not use epoxy mortar setting materials

Submit all mortar adhesive product data to a City Representative for review and approval prior to use.

### ***Joints for Tile***

Supply a high-performance, single component, neutral cure, 100% silicone caulk suitable for exterior vertical applications in environments subject to freeze-thaw from same manufacturer as grout product(s) and designed for ceramic, glass and stone tile applications and with mold and mildew inhibitor.

Provide caulk conforming to ASTM C-794 for Adhesion Properties, with 25% extension and compression, and conforming to the following ASTM C-920 properties: Type S, Grade NS, Class 25, Use NT, Use I, Use M and/or Use G or higher standard.

Ensure the caulk is compatible with concrete substrate, waterproof/anti-fracture membrane, mortar adhesive, grout and mosaic tile materials.

Color: Provide a reasonable match for the caulk color to the selected grout color. Color may vary for each separate installation based on grout color(s) chosen.

Submit caulk product data to a City Representative for review and approval prior to use.

### ***Grout for Tile***

Supply high-performance, non-sag, uniformly colored epoxy-based grout rated for exterior vertical applications with water resistant properties and conforming to ANSI A118.3 and with mold and mildew inhibitor.

Ensure the grout is compatible with waterproof/anti-fracture membrane, mortar adhesive and mosaic tile materials.

Color: Provide grout from industry-leading manufacturer. Each individual installation may require a separate grout color, to be selected from the standard range of colors by the mosaic designer.

Submit grout and pigment product data for all materials to a City Representative for review and approval prior to use.

Submit the manufacturer's standard grout color sample chart to both a City Representative and the mosaic designer for final grout color selection a minimum of 30 days prior to the mosaic tile installation.

### ***Mosaic Tile Panels***

Refer to "Site Specialty Items and Landscaping, General / Mosaic Tile Panels and Construction Requirements".

### ***Lighting***

#### ***General***

The Mosaic Wall includes an element of lighting that is considered integral to the construction, but which may be specified elsewhere. Coordinate fully the wall construction with the integration of the LED lighting; refer to plans and specs and/or contact a City of Madison Representative for additional information.

All lighting and components shall be UL Listed and rated for wet locations exterior environments with freeze-thaw.

Lighting tiles, dimmable driver(s), conduit, wiring, and controller(s) are included with this item.

#### ***Fixtures***

"TILE Exterior" light sheet system by Cooledge Lighting ([www.cooledgeighting.com](http://www.cooledgeighting.com)), or approved equal, including the flexible light emitting sheets (various sizes), connectors, exterior low voltage cables and LED drivers; Exterior fit kits may be required.

Light Output (per Tile): To be selected by the City from the manufacturer's standard options.

CCT: To be selected by the City from the manufacturer's standard options.

System must be configured on-site to accommodate final construction of walls and to account for obstacles, angles and curves. Provide a minimum 5-year warranty.

#### ***Exterior Starter Cable***

"TILE Exterior Starter Cable" and waterproof cable splices (as necessary) by Cooledge Lighting ([www.cooledgeighting.com](http://www.cooledgeighting.com)), or approved equal.

#### ***LED Driver***

"TILE Exterior" Exterior UL LED Driver (EPSS-090-24V) with 24 VDC Constant Voltage output and IP65 Rated Enclosure by Cooledge Lighting ([www.cooledgeighting.com](http://www.cooledgeighting.com)), or approved equal.

## CONSTRUCTION

Examine areas adjacent to mosaic walls for compliance with requirements and conditions affecting installation and performance of the work. Proceed with installation only after unsatisfactory conditions have been corrected.

Protect structures, utilities, pavements, and other improvements, planting beds, and turf areas from damage caused by mosaic wall installation.

Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

Form and pour cast-in-place concrete base with reinforcing making sure reinforcing is min. 3" clear, all outside edges, in accordance with the special provision for cast-in-place concrete and the drawings. Ensure that concrete base is fully cured prior to beginning any additional installations. Installations may not vary more than 1/8" in length, width, height, or placement. Coordination with tile installer is recommended prior to pouring mosaic wall.

Provide materials and labor for constructing all excavations, base preparation/installation, foundation preparation/installation and backfilling.

Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

Fabricate seams and other connections exposed to weather in a manner to exclude water. If weep holes are deemed necessary, include as part of shop drawing submittal and obtain approval for location, size and frequency prior to fabricating.

Take care during delivery, storage, and handling to ensure that units and any finishes are not damaged. Avoid scratches, abrasions, and marking with foreign substances. Protect finished surfaces with strippable film.

Refer to "Site Specialty Items and Landscaping, General / Mosaic Tile Panels and Construction Requirements" for overall construction requirements and installation for mosaic tile panels.

Apply stain to concrete at rates and utilizing methods indicated by the stain manufacturer and based on approved sample colors.

After completing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component. Remove excess materials from the site.

Remove and replace any construction that becomes broken, chipped, stained, spalls, or is otherwise damaged during delivery, installation and/or adjacent construction at no additional cost to the project.

Fully coordinate the installation of all wall elements with all lighting, glass and mosaic tile elements to ensure complete, seamless construction.

Lighting shall be installed to provide illumination in a manner that produces consistent illumination without glare, bright spots, dim spots or other inconsistencies. Supplier shall work closely with City of Madison Representatives to determine final tile size, configuration, location and quantity to achieve the

desired aesthetic and to field adjust the illumination from one element to the next at the end of construction to achieve the final desired illumination.

Conceal all fasteners unless otherwise noted.

Coordinate with a City Representative to field review light levels and colors and adjust as necessary, at night, to achieve the overall desired aesthetic and effect.

#### **METHOD OF MEASUREMENT**

Mosaic Wall, completed in accordance with the contract, will be measured as a lump sum (LS), acceptably completed.

The following quantities are approximate and are provided for general information; quantities are based on the current details, and, as indicated in the description, these may be revised prior to construction. Precise measurements remain the bidder's responsibility. The mosaic wall consists of approximately; 54 cubic yards of reinforced, cast in place concrete, including the spread footing, vertical wall, and wall cap; 376 square feet of stained concrete face, 18 square feet of tempered glass panel over lighted sections, three light assemblies, each with metal equipment access cabinet and locking door, and 210 square feet area of mosaic panels to be installed.

#### **BASIS OF PAYMENT**

Mosaic Wall, as measured above, is full compensation for providing cast-in-place concrete, reinforcing and aggregate base and all accessory anchors; for pick up, delivery and storage of mosaic tiles and for furnishing all tile installation materials (including, but not limited to, waterproofing, anti-fracture material, mortar adhesive, grouts, and caulks) and for preparing, placing, adjusting, and protecting the mosaic tile installations; for glass and lighting elements including all conduits, vents, arrays, and for working with Field Engineer to adjust the lighting for the desired aesthetic effect; for any miscellaneous materials required to complete the work in the approved fashion; for excavating and preparing the base and foundation; backfilling and disposing of surplus material; for placing, finishing, protecting, and curing; and restoring the work site; and for all labor, tools, equipment and incidentals necessary to complete the work.

Adjacent concrete pavements, specialty pavements, planting beds or lawns will be paid separately.

#### **BID ITEM 90038 – PRECAST MOSAIC PANEL, UNIT 1**

#### **BID ITEM 90039 – PRECAST MOSAIC PANEL, UNIT 2**

#### **DESCRIPTION**

This bid item consists of furnishing and installing Precast Mosaic Panel, (Unit) as shown on the plans, and as hereinafter provided, including the installation of the mosaic artwork.

All construction, after assembly, must be able to withstand minimum dead loads and lateral loads along with live load requirements prescribed by the American Society of Civil Engineers (ASCE), Standard 7 for the type and location of the construction indicated in this Section and the drawings. Plan for greater loads, potential concentrated loads, and/or unique conditions to provide a greater level of safety in this area.

Warrant the installation workmanship for two (2) years from the date of substantial completion.



### ***Sample Submittals***

Provide a 1-foot by 1-foot minimum piece of precast concrete, indicative of type, surface finish, color, aggregate size, and all other structural or visual qualities as the precast that will be used to produce the final product. Note: multiple sample iterations may be required to determine final color blends and finishes.

## **MATERIALS**

### ***Precast Concrete:***

High density, wet-cast, precast concrete sections with reinforcing meeting the following performance requirements:

Compressive Strength: 5,000 psi

Air Content: 6-8%

Water-Cement Ratio: 45:1

Portland Cement: ASTM C-150.

Aggregates: Utilize standard aggregates. All aggregates must meet ASTM C-33 specifications, cleaned and properly graded to size; aggregates shall be blended to meet individual project requirements.

Coloring Pigments: Integral to mixture, inorganic, resistant to alkalinity and used per manufacturer's recommendations.

Reinforcement and Hardware: Conform to American Concrete Institute (ACI) recommendations, manufacturer's design, and approved shop drawings. Reinforce precast concrete with deformed rods or wire or both.

Concrete Sealer: Provide colorless, pure acrylic water-repellent penetrating sealer. Sealer shall maintain the natural look of the concrete surface with no glaze or gloss, darkening or color change.

Caulks and Sealants: Where applicable, provide urethane or polyurethane sealants; color to be selected by Landscape Architect from manufacturer's standard color palette.

Size Tolerances: Construct all pieces to conform to approved shop drawings with a 1/16" tolerance in any dimension.

Color Family: Light Grey

Color and Texture: Final color shall be determined through sample submittal and approval process. Final texture shall be selected from manufacturer's full range of textures available for precast concrete; provide samples of a minimum of three textures (acid wash, weather stone and smooth-cast) to select from.

Comply with specified provisions and recommendations of the Precast/Prestressed Concrete Institute (PCI).

Precast concrete manufacturer and trade contractor must have a minimum of 5 years of successful experience on projects of similar magnitude and complexity to that indicated in this project. Provide precast by one of the following manufacturers or approved equal:

Wausau Tile (Contact: Jeff Gramling, 715-359-5441)

Stonecast Products (Contact: Paul Clouse, 262-253-6600)

### ***Waterproofing***

Supply a thin, load bearing waterproofing/anti-fracture membrane suitable for exterior, vertical tile applications that does not require the use of fabric in the field, coves or corners.

Provide a product that will form a flexible, seamless membrane with anti-fracture protection of up to 1/8" over shrinkage and non-structural cracks and that meets or exceeds ANSI A118.10 and A118.12 and is International Association of Plumbing and Mechanical Officials (IAPMO) approved.

Submit all waterproofing, anti-fracture product data for all materials to a City Representative for review and approval prior to use.

### ***Mortar Adhesive***

Supply a polymer fortified, thin-set mortar adhesive that is chemical resistant and suitable for exterior vertical tile applications in all environments. Provide a product that contains antimicrobial protection against mold and mildew.

Provide a product that meets or exceeds ANSI A 118.4 Shear Bond Strength Requirement and ANSI A118.11 and conforms to ISO 13007 with a classification of C2TES1P1.

Ensure the mortar adhesive is compatible with concrete substrate, waterproof/anti-fracture membrane, grout and mosaic tile materials.

Color: Use white mortar adhesive behind any semi-transparent glass tile mosaics. Any other standard color, as selected by the mosaic designer, maybe be used elsewhere.

Do not use epoxy mortar setting materials

Submit all mortar adhesive product data to a City Representative for review and approval prior to use.

### ***Joints***

Supply a high-performance, single component, neutral cure, 100% silicone caulk suitable for exterior vertical applications in environments subject to freeze-thaw from same manufacturer as grout product(s) and designed for ceramic, glass and stone tile applications and with mold and mildew inhibitor.

Provide caulk conforming to ASTM C-794 for Adhesion Properties, with 25% extension and compression, and conforming to the following ASTM C-920 properties: Type S, Grade NS, Class 25, Use NT, Use I, Use M and/or Use G or higher standard.

Ensure the caulk is compatible with concrete substrate, waterproof/anti-fracture membrane, mortar adhesive, grout and mosaic tile materials.

Color: Provide a reasonable match for the caulk color to the selected grout color. Color may vary for each separate installation based on grout color(s) chosen.

Submit caulk product data to a City Representative for review and approval prior to use.

### ***Grout***

Supply high-performance, non-sag, uniformly colored epoxy-based grout rated for exterior vertical applications with water resistant properties and conforming to ANSI A118.3 and with mold and mildew inhibitor.

Ensure the grout is compatible with waterproof/anti-fracture membrane, mortar adhesive and mosaic tile materials.

Color: Provide grout from industry-leading manufacturer. Each individual installation may require a separate grout color, to be selected from the standard range of colors by the mosaic designer.

Submit grout and pigment product data for all materials to a City Representative for review and approval prior to use.

Submit the manufacturer's standard grout color sample chart to both a City Representative and the mosaic designer for final grout color selection a minimum of 30 days prior to the mosaic tile installation.

### ***Mosaic Tile Panels***

Refer to "Site Specialty Items and Landscaping, General / Mosaic Tile Panels and Construction Requirements".

## **CONSTRUCTION**

Examine areas and conditions, with Installer and designer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance.

Proceed with installation only after unsatisfactory conditions have been corrected.

Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas, planting beds, and existing plants from damage caused by installation operations.

Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

Fabricate seams and other connections exposed to weather in a manner to exclude water. If weep holes are deemed necessary, include as part of shop drawing submittal and obtain approval for location, size and frequency prior to fabricating.

Take care during delivery, storage, and handling to ensure that units and any finishes are not damaged. Avoid scratches, abrasions, and marking with foreign substances. Protect finished surfaces with strippable film.

Set precast concrete units accurately as shown on approved shop drawings. Install level, plumb, straight, true, positioned, and securely anchored at locations indicated on Drawings.

Installations may not vary more than 1/8" in length, width, height, or placement.

Refer to "Site Specialty Items and Landscaping, General / Mosaic Tile Panels and Construction Requirements" for overall construction requirements and installation for mosaic tile panels.

After completing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component. Remove excess materials from the site.

Remove and replace any construction that becomes broken, chipped, stained, spalls, or is otherwise damaged during delivery, installation and/or adjacent construction at no additional cost to the project.

## **METHOD OF MEASUREMENT**

Precast Mosaic Panels, (Unit), completed in accordance with the contract, will be measured as each individual unit (each), acceptably completed.

## **BASIS OF PAYMENT**

Precast Mosaic Panels, (Unit), as measured above, is full compensation for the precast concrete panels and any fasteners to footings/foundations; for pick up, delivery and storage of mosaic tiles; for furnishing all materials (including, but not limited to, waterproofing, anti-fracture material, mortar adhesive, grouts, and caulks); preparing, placing, adjusting, and protecting the installations; and for coordinating with City Representatives and mosaic designers; for field review and approval before, during and after installations; and for furnishing all materials, labor, tools, equipment and incidentals necessary to complete the work.

## **BID ITEM 90040 – STONE VENEER PILLAR**

### **DESCRIPTION**

This special provision describes furnishing and installing stone veneer pillars constructed of veneered limestone on cast-in-place concrete base and/or CMU backing as show on the plans, and as hereinafter provided including shop drawings and mockups.

### **MATERIALS**

#### ***Concrete Masonry Units (CMU)***

Provide CMUs that comply with TMS 602/ACI 530.1/ASCE 6, modified to reject all masonry units that contain chips, cracks or other defects. Provide shapes indicated in the drawings and special shapes as necessary to complete the work per the drawings and approved shop drawings submittals. Provide units per ASTM C 90 with a minimum compressive strength of 1900 psi.

#### ***Concrete***

Provide concrete in conformance with Section, “Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base”; specific mixture design (including admixtures and any/all other materials) must be submitted to the City Engineer for review and approval prior to use on the project.

Provide cylinder testing for all concrete materials.

#### ***Aggregate Base***

Provide aggregate in conformance with Section, “Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base”.

#### ***Reinforcing***

Provide reinforcing in conformance with Section, “Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base”.

#### ***Limestone Materials***

Provide limestone veneer and cap in conformance with, “Site Specialty Items and Landscaping, General / Limestone Material and Construction Requirements”.

#### ***Mortar***

ASTM C 150, Type I or II, except Type II may be used for cold-weather construction. Color: Utilize SGS Mortar Color (or approved equal) to custom color joints in the field to make mortar joints look aged to match nearby stone wall construction at the UW-Madison Arboretum (exact location of existing walls can be provided upon request).

***Flashing***

Provide stainless steel flashing, type 304, .016" thick.

**CONSTRUCTION**

Form and pour cast-in-place concrete base with reinforcing making sure reinforcing is min. 3" clear, all outside edges, in accordance with the special provision for cast-in-place concrete and the drawings. Ensure that concrete base is fully cured prior to beginning work on the veneer application.

Construct mortared CMU core, grouted solid with reinforcing.

Provide materials and labor for constructing all excavations, base preparation/installation, foundation preparation/installation and backfilling.

Refer to "Site Specialty Items and Landscaping, General / Limestone Material and Construction Requirements" for overall construction requirements for limestone materials.

**METHOD OF MEASUREMENT**

Stone Veneer Pillar, completed in accordance with the contract, will be measured as each individual unit (each), acceptably installed.

**BASIS OF PAYMENT**

Stone Veneer Pillar, as measured above, is full compensation for providing cast-in-place concrete, reinforcing and aggregate base for the footings, for the limestone veneer and all accessory anchors, for flashings and materials, for all mortars and setting compounds, for the finished limestone caps, for any miscellaneous materials required to complete the work in the approved fashion; for excavating and preparing the base and foundation; backfilling and disposing of surplus material; for placing, finishing, protecting, and curing; and restoring the work site; and for all labor, tools, equipment and incidentals necessary to complete the work.

Adjacent concrete pavements, walls, specialty pavements, planting beds or lawns will be paid separately.

**BID ITEM 90041 – MOVEABLE TABLE****BID ITEM 90042 – MOVEABLE CHAIR****DESCRIPTION**

All work under this bid item shall consist of furnishing and installing Moveable Tables and Moveable Chairs, and all miscellaneous hardware required to complete the installation of the site furnishings in accordance with the manufacturer's written instructions, as show on the plans, and as hereinafter provided.

**MATERIALS**

Furnish and deliver Moveable Tables and Moveable Chairs conforming to the details and in locations indicated in the plans or as directed by the Engineer.

***Moveable Tables:***

Model: "Park Centre" Table, 24-Inch Round, with freestanding base and adjustable levelers by Landscape Forms ([www.landscapeforms.com](http://www.landscapeforms.com); 1-800-430-6209), or approved equal.

Color/Finish: Powdercoat Finish. Final color selection to be determined by a City of Madison representative; final selection may be a custom color.

***Moveable Chairs:***

Model: "Park Centre" Chair, without arms, by Landscape Forms ([www.landscapeforms.com](http://www.landscapeforms.com); 1-800-430-6209), or approved equal.

Color/Finish: Powdercoat Finish. Final color selection to be determined by a City of Madison representative; final selection may be a custom color.

Lead time is a minimum of 8 weeks from receipt of order and deposit to manufacturer. Coordinate with the Engineer on color selection prior to ordering.

**CONSTRUCTION**

Examine areas to receive Moveable Tables and Moveable Chairs for compliance with requirements and conditions affecting installation and performance. Review locations of Moveable Tables and Moveable Chairs with owner's representative prior to final placement.

Deliver the Moveable Tables and Moveable Chairs to the project site and located as directed by the Owner's Project Representative.

Furnish all incidental items necessary to make the units complete and the installation acceptable.

Contractor is responsible for cleaning site furnishings after installation per manufacturer's recommendations.

A City Representative will carefully inspect all furnishings after installation and cleaning for scratches or damage and dictate a plan of action for correction which could include, but is not limited to paint touch-ups or wholesale replacement of the item depending on the type and extent of damage. Cleaning, repairs, or full replacements due to damage are considered incidental to the installation.

**METHOD OF MEASUREMENT**

Moveable Table and Moveable Chair, completed in accordance with the contract, will be measured as each individual unit (each), acceptably completed.

**BASIS OF PAYMENT**

Moveable Table and Movable Chair, as measured above, is full compensation for materials including tables units and chair units and hardware necessary to completely assembly of the site furnishings; for delivery and location of the units; and for all labor, tools, equipment and incidentals necessary to complete the work.

**BID ITEM 90043 – DRINKING FOUNTAIN**

**DESCRIPTION**

All work under this bid item shall consist of furnishing and installing the Drinking Fountain, including all plumbing and water supply and all miscellaneous hardware required to complete the installation in accordance with the manufacturer's written instructions, as show on the plans, and as hereinafter provided. Water supply to be construct per the City Standard Specifications and details.

**MATERIALS**

Furnish and deliver Drinking Fountain conforming to the details and in locations indicated in the plans.

***Drinking Fountain:***

Model: Elkay Outdoor EZH20 Bottle Filling Station (Item no. LK4420BF1UDB) or approved equal  
Model Description: Bi-Level, Pedestal with Pet Station, Non-filtered, Non-refrigerated (or approved equal).  
Grade 316 Stainless Steel, Laminar Flow, Heavy Duty, with Pet Fountain and Vandal-resistant Bubbler.  
Mechanical Front Bubbler with button activation. Surface mount for outdoor applications.  
Color/Finish: E-Coat Finish. Final color selection to be determined by a City of Madison representative;  
final selection may be a custom color.  
Fasteners: Provide grade 316 stainless steel, tamper-proof concrete anchors or fasteners recommended by the  
manufacturer for exterior applications surface mounted to concrete slabs.

***Utilities***

The contractor is responsible for supplying all water source and waste water line(s) and all valves, shut-offs and other equipment necessary for a full installation. Sizes, lengths and types of hardware/controls must conform to all local, state and national plumbing and utility codes and will be reviewed and approved through the shop drawing submittal process.

**CONSTRUCTION**

Coordinate installation of all plumbing rough-ins, supply valves and any/all other utilities, pipes and controls necessary for a complete and functional installation. The utility connections and controls are considered incidental to the Drinking Fountain bid item.

Examine areas to receive drinking fountain for compliance with requirements and conditions affecting installation and performance. Proceed with installation only after unsatisfactory conditions have been corrected.

Surface mount to concrete pavement in locations shown on plans and in coordination with water supply and waste lines. Install per manufacturer's written instructions.

Provide materials and labor for constructing all excavations, base preparation/installation, foundation preparation/installation and backfilling for all items associated with the Drinking Fountain, including utilities.

Furnish all incidental items and hardware necessary to make the units complete and the installation acceptable.

Contractor is responsible for cleaning the drinking fountain after installation per manufacturer's recommendations.

A City Representative will carefully inspect the drinking fountain after installation and cleaning for scratches or damage and dictate a plan of action for correction which could include, but is not limited to paint touch-ups or wholesale replacement of the item depending on the type and extent of damage. Cleaning, repairs, or full replacements due to damage are considered incidental to the installation.

**METHOD OF MEASUREMENT**

Drinking Fountain, completed in accordance with the contract, will be measured as each individual unit (each), installed and acceptably completed.

## **BASIS OF PAYMENT**

Drinking Fountain, as measured above, is full compensation for furnishing and installing the plumbing and utilities required for water supply and wastewater removal, including all shut-offs, valves, blow-out, backflow preventers and any/all other source control items; for drinking fountain unit; for furnishing any and all hardware necessary to complete the installation; for excavating and preparing the base and foundation for utilities; backfilling and disposing of surplus material; for placing, finishing and protecting; and restoring the work site and for all labor, tools, equipment and incidentals necessary to complete the work.

## **BID ITEM 90044 – BENCH, 6-FOOT**

### **DESCRIPTION**

This work shall consist of the furnishing and installing benches as shown on the plans and as herein provided.

### **MATERIALS**

Benches shall be 72" length as indicated, galvanized. Powdercoat black color to match "signal black" RAL9004. Acceptable product manufacturers are: #SC3005-BS-48 or #SC3005-BS-72, Landscape Forms, 15108 Chestnut Circle Burnsville, MN 55306, (800) 521-2546, and Overture Bench 4' or 6', Thomas Steele, 2700 Laura Lane, Middleton, WI 53562, (608) 831-9040.

### **CONSTRUCTION**

Install benches with stainless steel bolt and anchor system according to manufacturer's instructions in locations shown on the plans.

### **METHOD OF MEASUREMENT**

Benches shall be measured by the unit, each, installed and accepted in place.

## **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price each, which price shall be payment in full for furnishing, installing benches; and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work.

## **BID ITEM 90045 – BIKE RACK, MULTI-STALL**

### **DESCRIPTION**

This work shall consist of the furnishing and installing multi-stall bike racks as shown on the plans and as herein provided.

### **MATERIALS**

"City Rack", 5-bike, single-sided, flange mount model by Saris, Dero "Campus Rack" 5-bike or Madrax "Spartan Rack" 5-bike or approved equal. Bike racks shall be steel, hot-dipped galvanized finish.



## CONSTRUCTION

Install plastic shims under the base of the bike rack to elevate the anchoring location slightly above the sidewalk; coordinate shim placement with the Engineer.

## METHOD OF MEASUREMENT

Bike Racks shall be measured by the unit, each, installed and accepted in place.

## BASIS OF PAYMENT

This item, measured as provided above, will be paid for at the contract unit price each, which price shall be payment in full for furnishing, installing benches; and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work.

## BID ITEM 90046 – VENDOR MEDALLION

### DESCRIPTION

This work shall consist of the furnishing and installing vendor medallions at the locations shown on the plans and as herein provided; including shaping and finishing as detailed, engraved as indicated in the Drawings, preparation for installation, and delivery and installation on-site. Guarantee all materials, workmanship and installation for a period of one year from the date of acceptance.

### MATERIALS

#### *Medallions*

1/4" silicon bronze alloy 655 plate, cut in 4" diameter disks with side bevel, welded to setting pins as indicated and with engraving as indicated in the Drawings.

#### *Caulk*

Supply a high-performance, single component, neutral cure, 100% silicone caulk suitable for exterior horizontal applications in environments subject to freeze-thaw and with mold and mildew inhibitor.

Provide caulk conforming to ASTM C-794 for Adhesion Properties, with 25% extension and compression, and conforming to the following ASTM C-920 properties: Type S, Grade NS, Class 25, Use NT, Use I, Use M and/or Use G or higher standard.

Ensure the caulk is compatible with concrete substrate, and bronze alloy medallion materials.

Color: Clear.

Submit caulk product data to a City Representative for review and approval prior to use.

## CONSTRUCTION

Cut, shape, finish and engrave vendor medallions off-site. Deliver to site.

Layout arrangement of the medallions in the field. Contact Ken Saiki, Landscape Architect, 608-251-3600, to be present for layout or to review the layout before installation.

After final approval of layout and location, mark disk locations and drill setting holes. Screw in disks until tight, caulk perimeter with clear, exterior-grade silicone caulk.

Clean any dirt, dust or silicone from the face of all medallions and adjacent pavement surfaces.

## **METHOD OF MEASUREMENT**

Vendor Medallion shall be measured by the unit, each, installed and accepted in place.

## **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price each, which price shall be payment in full for fabricating, engraving, furnishing and installing vendor medallions; and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work.

## **BID ITEM 90047 – INTERPRETIVE SIGNAGE**

### **DESCRIPTION**

This work shall consist of the furnishing and installing interpretive signage as shown on the plans and as herein provided; including coordination with the City for print-ready graphics, preparation for installation, and delivery and installation on-site.

### **MATERIALS**

#### ***Sign, Posts and Graphics***

DuraReader Interpretive Sign of Digital High-Pressure Laminate with a 10-year warranty, by Envirosigns, Ltd. (2700 Fulton Drive NW, Canton, OH 44718; 1-888-492-5377; [www.envirosigns.com](http://www.envirosigns.com)), or approved equal.

Sign Dimensions: 18" high x 24" wide x 1/8" thick.

Exhibit Base/Frame Style: NPS Traditional, Low-Profile, Standard 45 deg. Angle.

Post Lengths: NPS-compliant (extra length) posts will be required for the installation; coordinate with manufacturer at the time of order.

Metal: 100% extruded aluminum.

Finish: Powdercoat.

Color: Black Frame and Posts.

Installation: In-ground (NPS-compliant) mount.

Hardware: Refer to manufacturer's standard hardware for this product. Contractor will be required to provide any and all hardware for field assembly and installation of this product whether or not manufacturer provides hardware as part of furnishings package.

Sign Design: The Contractor shall coordinate with the City of Madison to obtain print-ready sign designs. The City of Madison is responsible for the content and sign design.

#### ***Concrete Footings***

Provide concrete in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base"; specific mixture design (including admixtures and any/all other materials) must be submitted to the City Engineer for review and approval prior to use on the project.

## **CONSTRUCTION**

Examine areas and conditions for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance. Notify City Engineer immediately if any unsatisfactory conditions exist. Proceed with installation only after unsatisfactory conditions have been corrected.

Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required. Install level, true, and securely anchored.

Excavate for post holes to footing size and shape indicated in Working Drawings. Assemble sign base according to manufacturer's written instructions and refer to installation video at [www.nps.gov/hfc/video/wayside-base-install.htm](http://www.nps.gov/hfc/video/wayside-base-install.htm) for general sign assembly information and additional detail on protecting and bracing the sign during concrete placement.

Install sign, complete with graphic panel and footing material, including all necessary hardware to complete the entire installation.

Provide materials and labor for constructing all excavations, base preparation/installation, foundation preparation/installation and backfilling.

Use only stainless steel hardware to secure any and all site furnishings, unless otherwise indicated by manufacturer. Provide temporary bracing if required during footing curing period.

Clean any dirt, dust or silicone from the face of all medallions and adjacent pavement surfaces.

After completing site furnishing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

## **METHOD OF MEASUREMENT**

Interpretive Signage shall be measured by the unit, each, installed and accepted in place.

## **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price each, which price shall be payment in full for fabricating, furnishing and installing interpretive signage, including coordination with the City to obtain print-ready graphics to the manufacturer; for excavating and preparing the base and foundation; backfilling and disposing of surplus material; for placing, finishing, protecting, and curing; and restoring the work site; and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work.

## **BID ITEM 90048 – DECORATIVE RIP-RAP**

### **DESCRIPTION**

This section describes furnishing and installing Decorative Rip-rap at the locations shown on the plans and as hereinafter provided.

## **MATERIALS**

Custom washed, rounded stone mix in the following proportions:

- Size: 2 – 4 " washed, rounded stone. Color Range: Tan, Orange and Charcoal; 20% of total mix. Basis of Design: "Canadian Pebbles" by Madison Block and Stone (1-608-249-5633).
- Size: 4"- 8" washed, rounded stone. Color Range: Tan, Orange and Charcoal; 50% of total mix. Basis of Design: "Canadian Cobbles" by Madison Block and Stone.
- Size: 4" – 8" washed, rounded fieldstone. Color Range: White and Light Buff to Tan; 30% of total mix. Basis of Design: "Rounded Fieldstone" by Madison Block and Stone.

Other acceptable suppliers may include:

Midwest Decorative Stone, 608-273-9787 (Madison, WI)  
County Materials (Various WI Locations)

Submit a 5 lb. sample indicative of blend's size and color range.

## **CONSTRUCTION**

Excavate for bioretention basin as indicated on Drawings. Spot elevations indicated in the Drawings indicated flowline spot elevations, prior to the placement of the Decorative rip-rap.

Compact subgrade uniformly beneath areas to receive Decorative rip-rap.

Apply nonselective, pre-emergent herbicide that inhibits growth of grass and weeds.

Install geotextile fabric, covering all areas that will receive Decorative rip-rap. Geotextile fabric alone can be installed by overlapping and pinning edges of fabric at least 6 inches and according to manufacturer's written instructions. Wrap geotextile up the outside edges and secure in-place.

Place indicated thickness of Decorative rip-rap, fully covering geotextile fabric and within the tolerances indicated in the Drawings.

Rake mulch to a uniform surface level.

## **METHOD OF MEASUREMENT**

Decorative rip-rap will be measured by the Ton, lightly compacted in place.

## **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price cubic yard, which price shall be payment in full for furnishing all materials, excavating and removing existing material to depths indicated, tilling subgrades and placing decorative rip-rap material; and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work.

## **BID ITEM 90049 – BOULDER OUTCROPPING**

### **DESCRIPTION**

This section describes furnishing and installing Stone Outcroppings over compacted aggregate base at the locations shown on the plans and as hereinafter provided.

## **MATERIALS**

Provide Landscape Boulders having the following characteristics:

- Type:* Native Wisconsin granite boulders, quarried within 150 miles of the project site.
- Color:* Naturally selected from a pre-sorted batch of individual stones in the light to medium grey range with some additional aesthetic interest (i.e. veining, color variation, weathering).
- Shape:* Large, rounded with some facets or gentle faces; no sharp angles or quarry-produced facets or cuts.
- Size:* Approximately 18"-36" x 18"- 36" x 18"- 36", pre-sorted according to these size requirements.

### ***Aggregate Base***

Provide aggregate in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base".

## **CONSTRUCTION**

Prior to ordering the individual boulders for the Boulder Outcropping installation(s), furnish photographs of each individual boulders with scale measurement (i.e. protracted tape measure) in the photograph, confirming the size, shape, color, and type requirements are met. Obtain approval of Landscape Boulders by the engineer before ordering or delivery to the project site.

Compact subgrades under landscape boulders; provide a compacted aggregate base for each boulder or groups of boulders as indicated in the Drawings.

Provide materials and labor for constructing all excavations, base preparation/installation, foundation preparation/installation and backfilling.

Place Boulder Outcroppings and orient for best aspect; coordinate in-field with Landscape Architect. Install such that 1/3 of the boulder is buried beneath adjacent finished surfaces and 2/3 of the boulder is exposed.

## **METHOD OF MEASUREMENT**

This item, measured as provided above, will be paid for at the contract unit price each, which price shall be payment in full for excavating and installing compacted aggregate base, for furnishing and installing boulder outcroppings; and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work.

## **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price each, which price shall be payment in full for furnishing and installing aggregate base and boulders; for transporting, handling, storing and sorting boulders; for coordinating individual placements and orientations in the field to achieve the desired aesthetic; for excavating, backfilling and repairing areas disturbed by placement of boulder outcroppings; for disposing of all excess and waste material; for excavating and preparing the base and foundation; backfilling and disposing of surplus material; for placing, finishing, protecting; and restoring the work site; and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work.

**BID ITEM 90050 – CELEBRATION MAPLE, 2.5" CAL., B&B**  
**BID ITEM 90051 – SKYLINE HONEYLOCUST, 2.5" CAL., B&B**  
**BID ITEM 90052 – EXCLAMATION LONDON PLANE TREE, 2" CAL., B&B**  
**BID ITEM 90053 – AUTUMN BRILLIANCE SERVICEBERRY, 5-FOOT HT., B&B**

**DESCRIPTION**

This work shall be in accordance with the requirements of Article 209 of the City of Madison standard specifications for public works construct.

Provide plant material in accordance with all ANSI standards.

Provide a 1-year warranty and maintenance period. The warranty/maintenance period will start upon substantial completion of landscape installation and extend for one calendar year (12 months). Maintenance activities are indicated in this section. The Contractor shall warranty all plant material to be in a healthy, thriving condition at the end of the 1-year period or shall furnish, at no additional cost, a replacement of the same species and size as the original plant material.

Trees shall be of the size and branching type specified in the Drawings. All trees except 'Autumn Brilliance' Serviceberry shall be single stem and trunk free of branches 7 to 9 feet. 'Autumn Brilliance' Serviceberry shall be multi-stem with no overlapping leaders. Trees shall be secured by Contractor by June 1 of the season of installation to ensure correct species and sizes are available at time of planting.

Contact City Forestry to coordinate planting installation (Brad Hoffmann, 608-266-4908).

**CONSTRUCTION**

This work shall be in accordance with the requirements of SSHSC Section 632, except as follows:

*Add the following to standard spec 632.2.1:*

Ensure all plants are grown within the states of Wisconsin, Minnesota, Michigan, or parts of northern Illinois, Indiana or Ohio located within Zone 5 of the "Plant Hardiness Zone Map" produced by the United States Department of Agriculture, Miscellaneous Publication No. 1475, issued January 1990, unless otherwise approved by the Engineer.

*Add the following to standard spec 632.2.8:*

Furnish a list of sources for plants in accordance with Subsection 632.2.2.8 before planting begins for fall-planted plants and before March 15 for spring-planted plants. All sources will be subject to verification by the Engineer.

*Delete standard spec 632.2.3 and replace with the following:*

Planting Mixture, including all individual components of said mixture, shall meet the requirements outlined in the section "Planting Mixture" of these contract documents.

*Delete standard spec 632.2.4.2 and replace with the following:*

For fertilizer used in plant holes, provide a three-year release, water-soluble fertilizer contained in a micropore slow release polyethylene packet. Ensure each packet contains two ounces of fertilizer. A single 2-ounce packet is considered one unit. Ensure the fertilizer conforms to the following minimum requirements:

Nitrogen, not less than ----- 16%

Phosphoric Acid, not less than ----- 8%

Potash, not less than -----8%

Use a minimum of two units and provide two units per caliper inch of tree trunk diameter. For one-half caliper measurements, round up to the next unit.

*Delete standard spec 632.2.6 and replace with the following:*

Provide Shredded Hardwood Bark Mulch for mulch rings around the base of plant material planted in lawn areas that is finely shredded hardwood bark mulch and the product of a mechanical chipper, hammermill, or tub grinder. Ensure the material is fibrous and uniformly dark brown in color, free of large wood chunks, and substantially free of mold, dirt, sawdust, weeds, weed seeds and foreign material. Ensure that no portion of the material is in an advanced state of decomposition. Ensure that the material does not contain chipped up manufactured boards or chemically treated wood, including but not limited to wafer board, particle board, and chromated copper arsenate (CCA) or penta-treated wood. Ensure that the material does not contain any bark of the black walnut tree. Ensure that the material, when air dried, all passes a 4-inch screen and no more than 20 percent by mass of the material passes a 0.10-inch sieve. Ensure that unattached bark or greenleaf composition, either singly or combined, does not exceed 20 percent each by mass. The maximum length of individual pieces cannot exceed 4 inches.

Provide mulch for trees planted in lawns and/or other areas as shown on the plans and details.

Mulch for tree rings will be considered incidental to the Tree planting item; mulch for the surface of planting beds will be paid for separately.

Supply source of shredded hardwood bark mulch to the Engineer. All sources will be subject to verification and approval by the Engineer.

*Delete standard spec 632.2.7 and replace with the following:*

Do not use wrapping on plant material.

*Add the following to standard spec 632.2.10:*

Provide bracing and guying materials only as necessary to maintain the short and long-term health of the tree and/or as directed by a Project Representative. Remove staking and guying material at the end of the maintenance period.

*Delete standard spec 632.3.1, subsection (1) and replace with the following:*

The normal spring planting season for all plants is up to June 15. The normal fall planting season is September 15 to November 15 or up until the ground is frozen. Ensure the planting of evergreen trees and shrubs, and perennials in the fall is completed by October 15. If the overall construction schedule dictates that planting will occur between June 15 and September 15, obtain approval from the Engineer to begin installation outside of the normal planting seasons. If the Engineer grants approval of the request, the Contractor will also be held fully responsible for all additional maintenance associated with planting outside of the normal planting seasons including, but not limited to, supplemental watering above and beyond the typical, specified landscape maintenance and care cycle schedule.

*Add the following to standard spec 632.3.1:*

Take care not to damage or disturb adjacent finished landscape and seed or sod to repair all damage caused to adjacent seeded and/or sodded areas.

*Delete standard spec 632.3.3 and replace with the following:*

Stake out locations of all plant holes and obtain approval of staked location from the Engineer before planting.

*Add the following to standard spec 632.3.4:*

Ensure that the bottom of the hole is adequately compacted to guard against settling. Tamp or water in as necessary to create a condition by which plants will not settle in the planting beds. Ensure the bottom of the root ball is in direct contact with the bottom of the hole.

*Add the following to standard spec 632.3.7:*

Remove the burlap and other wrapping materials including, but not limited to, twine, wire baskets, and plastic ribbon, from the entire root ball of B&B plants unless the Engineer determines that removal of said material will be detrimental to plant stability and/or establishment.

*Add the following to standard spec 632.3.19.1:*

The interval for a care cycle is 10-14 days between May 15 and October 15. There will be ten (10) required care cycles in a growing season.

Perform a complete and thorough spring clean-out around the base of all plants. Perform Spring clean-out during the first care cycle of the year (between April 15 and May 1) or as soon as weather and growing season conditions permit. Do not perform spring clean-out until the ground is no longer saturated from the spring thaw; walking on saturated soil will result in compaction. Ensure that Spring clean-out includes removal of past-season herbaceous material that has grown up within mulch rings at the base of the plant material, removal of any material damaged over the winter by pruning according to the language outlined in Section 632 of the Standard Specifications, removal of trash or other debris that has accumulated in the general vicinity of the berm planting area, planting beds, removal of leaves or other plant debris that has accumulated on the top of the mulched surface, replenishing mulch, weeding, and any and all other clean-out and maintenance operations as directed by the Engineer or as required to produce an aesthetically pleasing, healthy environment for plant growth.

Perform a complete and thorough fall clean-out of all planting beds that contain trees, shrubs, perennials, ornamental grasses and/or bulbs. Perform Fall clean-out during the last care cycle of the year (between October 15 and October 31). Do not perform fall clean-out if the soil is saturated from rain event; wait until the soil moisture levels have gone down before performing the final bed clean-out. Ensure that Fall clean-out includes removing any material damaged during the growing season by pruning according to the language outlined in Section 632 of the Standard Specifications, removal of trash or other debris that has accumulated in the general vicinity of the berm planting area, removal of leaves or other plant debris that has accumulated on the top of the mulched surface, replenishing mulch, weeding, and any and all other clean-out and maintenance operations as directed by the Engineer or as required to produce an aesthetically pleasing, healthy environment for plant growth.

***Provide supplemental water during the April 15 to October 31 maintenance period as often as necessary to ensure healthy, thriving, and established plant material. The Contractor will remain solely responsible for plant health and watering for the duration of the proving period. Watering shall be in accordance with City of Madison drought watering specification.***

Re-mulching of mulch rings at the base of tree and shrub material is expected to be performed immediately prior to the end of the one-year proving period. Work is incidental to each tree. Additional payment for re-mulching will not be granted.

## **METHOD OF MEASUREMENT**

TREE, (TYPE), (SIZE), (ROOT CONDITION) shall be measured by the unit, each, installed and accepted in place.



## **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price each, which price shall be payment in full for furnishing and installing trees; for providing the warranty for materials and the maintenance for trees; and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work.

## **BID ITEM 90054 – SHRUBS**

### **DESCRIPTION**

This special provision describes furnishing and installing shrubs as shows on the plans, and as hereinafter provided.

This work shall be in accordance with the requirements of Article 209 of the City of Madison standard specifications for public works construct, except as stated herein.

Shrubs shall be 18-24" height / spread at time of planting; exact sizes per species are indicated in the Drawings. They shall be planted in the fall season between September and October 31 or the spring season between April 15 and May 31.

During the first two months of establishment, the Contractor will be responsible for providing supplemental water for the plants equivalent to one inch of rainfall, twice per week during each week where rainfall does not exceed one-inch total. Each week shall be considered Saturday through Friday.

Provide a 1-year warranty and maintenance period. The warranty/maintenance period will start upon substantial completion of landscape installation and extend for one calendar year (12 months). A list of maintenance activities is included under bid items for TREE, (TYPE), (SIZE), (ROOT CONDITION) and apply to the Shrubs bid item.

The Contractor shall warranty all plant material to be in a healthy, thriving condition at the end of the 1-year period or shall furnish, at no additional cost, a replacement of the same species and size as the original plant material.

Any replacement shrub needed after October 31 shall be replaced the following spring between April 15 and May 31.

This work shall be in accordance with the requirements of SSHSC Section 632 with the additions and revisions outlined in the bid items for TREE, (TYPE), (SIZE), (ROOT CONDITION) and as stated herein.

### **METHOD OF MEASUREMENT**

Shrubs shall be measured by the unit, each, installed and accepted in place.

### **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price each, which price shall be payment in full for furnishing and installing shrubs; for providing the warranty for materials and the maintenance for individual plants and the entire planting bed(s); and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work.

**BID ITEM 90055 – PERENNIALS & GRASSES, 4-Inch, Pot**  
**BID ITEM 90056 – PERENNIALS & GRASSES, 1 Gal., Cont.**

**DESCRIPTION**

This work shall be in accordance with the requirements of Article 209 of the City of Madison standard specifications for public works construct, except as stated herein.

Perennials shall be two-year old plants and 4-inch pot or 1-gallon size at time of planting (size per species indicated in Drawings). They shall be planted in the fall season between September 1 and October 31 or the spring season between April 15 and May 31.

During the first two months of establishment, the Contractor will be responsible for providing supplemental water for the plants equivalent to one inch of rainfall, twice per week during each week where rainfall does not exceed one-inch total. Each week shall be considered Saturday through Friday.

Any replacement perennial needed after October 31 shall be replaced the following spring between April 15 and May 31.

Provide a 1-year warranty and maintenance period. The warranty/maintenance period will start upon substantial completion of landscape installation and extend for one calendar year (12 months). A list of maintenance activities is included under bid items for TREE, (TYPE), (SIZE), (ROOT CONDITION) and apply to the Perennials bid items.

The Contractor shall warranty all plant material to be in a healthy, thriving condition at the end of the 1-year period or shall furnish, at no additional cost, a replacement of the same species and size as the original plant material.

This work shall be in accordance with the requirements of SSHSC Section 632 with the additions and revisions outlined in the bid items for TREE, (TYPE), (SIZE), (ROOT CONDITION) and as stated herein.

**METHOD OF MEASUREMENT**

Perennials & Grasses, (SIZE), (CONT), shall be measured by the unit, each, installed and accepted in place.

**BASIS OF PAYMENT**

This item, measured as provided above, will be paid for at the contract unit price each, which price shall be payment in full for furnishing and installing perennials and grasses; for providing the warranty for materials and the maintenance for individual plants and the entire planting bed(s); and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work.

**BID ITEM 90057 – SHREDDED HARDWOOD BARK MULCH**

**DESCRIPTION**

This work shall consist of the furnishing and installing shredded hardwood bark mulch for all planting beds, as shown on the plans and as herein provided.

## **MATERIALS**

Provide Shredded Hardwood Bark Mulch, as shown on plan and in accordance with Section 632.2.6 of the SSHSC.

Provide Shredded Hardwood Bark Mulch as a top-dressing for all planting beds (as indicated in the plans) that is finely shredded hardwood bark mulch and the product of a mechanical chipper, hammermill, or tub grinder. Ensure the material is fibrous and uniformly dark brown in color, free of large wood chunks, and substantially free of mold, dirt, sawdust, and foreign material. Ensure that no portion of the material is in an advanced state of decomposition. Ensure that the material does not contain chipped up manufactured boards or chemically treated wood, including but not limited to wafer board, particle board, and chromated copper arsenate (CCA) or penta-treated wood. Ensure that the material does not contain any bark of the black walnut tree. Ensure that the material, when air dried, all passes a 4-inch screen and no more than 20 percent by mass of the material passes a 0.10-inch sieve. Ensure that unattached bark or greenleaf composition, either singly or combined, does not exceed 20 percent each by mass. The maximum length of individual pieces cannot exceed 4 inches.

## **CONSTRUCTION**

Install mulch in accordance with Section 632.3.9 to a depth of 3 inches over entire area of planting beds or existing planting beds as noted in plans.

Where planting beds abut lawn areas, provide a natural bed edge. Shovel cut a clean straight and uniform line a minimum of 6" deep by 6" wide and fill with mulch, compacted in place. Shovel cutting the edges shall be considered incidental to the grading bid item.

Do not use any weed barrier fabric in bark mulch areas.

Place the hardwood bark mulch in such a manner as to not damage plants or other landscape materials or pavements already in place.

## **METHOD OF MEASUREMENT**

Shredded Hardwood Bark Mulch, completed in accordance with the contract, will be measured by the cubic yard, acceptably installed.

## **BASIS OF PAYMENT**

Shredded Hardwood Bark Mulch, measured as provided above, will be paid for at the contract unit price, which shall be payment in full for furnishing all materials, constructing natural bed edges, placing material and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work.

## **BID ITEM 90058 – SHORTGRASS PRAIRIE SEED MIX**

### **DESCRIPTION**

This work consists of preparing seed beds, furnishing, and sowing shortgrass prairie seed mix in accordance the applicable provisions of the Wisconsin Department of Transportation *Standard Specification for Highway and Structures Construction*, Section 630, as shown on the plans, and as hereinafter provided.

## MATERIALS

Provide all seed in accordance with Standard Spec 630.2. Provide documentation of seed source (supplier) and final proposed seed mixtures to the Engineer a minimum of 30 calendar days prior to installation for review. Obtain Engineer's approval of the supplier and mix, in writing, prior to installation on this project.

Ensure that none of the seed mixes contain Birdsfoot Trefoil or Crown Vetch.

### **Short Grass Prairie**

Provide a seed mixture at areas shown as Shortgrass Prairie Seed Mix in the plans, conforming to the following species and mixture proportions:

Scientific Name	Common Name	% Mix by Weight	PLS Grams/1 lb. Mix
Grasses			
<i>Bouteloua curtipendula</i>	Side Oats Grama	27.31	124
<i>Schizachyrium scoparium</i>	Little Bluestem	25.55	116
<i>Sporobolus heterolepis</i>	Prairie Dropseed	7.05	32
Wildflowers			
<i>Agastache foeniculum</i>	Lavender Hyssop	0.88	4
<i>Allium cernuum</i>	Nodding Pink Onion	2.64	12
<i>Aster azureus</i>	Sky Blue Aster	0.88	4
<i>Aster laevis</i>	Smooth Aster	0.88	4
<i>Coreopsis lanceolata</i>	Lanceleaf Coreopsis	1.76	8
<i>Dodecatheon meadia</i>	Shootingstar	0.88	4
<i>Echinacea pallida</i>	Pale Purple Coneflower	5.29	24
<i>Echinacea purpurea</i>	Purple Coneflower	3.52	16
<i>Eryngium yuccifolium</i>	Rattlesnake Master	2.64	12
<i>Liatris pycnostachya</i>	Prairie Blazingstar	2.64	12
<i>Parthenium integrifolium</i>	Wild Quinine	0.88	4
<i>Penstemon digitalis</i>	Smooth Penstemon	0.88	4
<i>Rudbeckia hirta</i>	Black-Eyed Susan	1.76	8
<i>Rudbeckia triloba</i>	Brown-Eyed Susan	0.88	4
<i>Solidago rigida</i>	Stiff Goldenrod	0.88	4
<i>Tradescantia ohiensis</i>	Spiderwort	1.76	8
<i>Zizia aurea</i>	Golden Alexanders	1.32	6
Legumes			
<i>Astragalus canadensis</i>	Canada Milk Vetch	0.88	4
<i>Dalea candida</i>	White Prairie Clover	3.52	16
<i>Dalea purpurea</i>	Purple Prairie Clover	4.41	20
<i>Lespedeza capitata</i>	Roundhead Bushclover	0.88	4

Do not include any additional cover crop or nurse crop as part of the Shortgrass Prairie Seed Mix.

### ***Erosion Control***

Provide Class 1, Type B, double net aspen coir wood fiber erosion control mat from the WisDOT Erosion Control PAL for Multi-modal applications, current edition for all areas seeded with Shortgrass Prairie Seed Mix.

Provide 6-inches long, 100% biodegradable anchoring stakes, as listed in the WisDOT Erosion Control PAL for Multi-modal applications, current edition, under 'Anchoring Devices for Class I, Urban Erosion Mat'.

Erosion control mat and biodegradable anchoring stakes is considered incidental to the Shortgrass Prairie Seed Mix item.

### **CONSTRUCTION**

Sow seeding mixtures in accordance to standard spec 630.3.1(3) with a preference given to performing the Short Grass Prairie seeding before June 30 or after October 15.

Dormant seeding after November 15<sup>th</sup> may be an option but would require additional coordination and instruction from the project Engineer. Dormant seeding must be approved, in writing, by the Engineer.

Do not apply fertilizer to areas to be seeded with Shortgrass Prairie Seed Mix.

Utilize Method C for Seeding Mixture, Shortgrass Prairie and perform seeding in accordance with 630.3.3.3(3).

Seeding rate for Short Grass Prairie of 10 PLS pounds per acre and apply at a rate not less than 150 seeds per square foot.

Guarantee the germination and vigorous growth of the Shortgrass Prairie Seed Mix. If germination and vigorous growth does not occur, Contractor will be held responsible for making repairs, over seeding and/or re-seeding all areas that have not adequately germinated and demonstrated vigorous growth as directed by the Engineer.

### **METHOD OF MEASUREMENT**

Shortgrass Prairie Seed Mix will be measured by the square yard, acceptably completed and in accordance to standard spec 630.4.

### **BASIS OF PAYMENT**

This item, measured as provided above, will be paid for by the square yard (SY), which shall be payment in full for furnishing and installing the seed mixture and erosion control materials; for providing the required culture and inoculating the seed; for preparing the seed bed, sowing, covering and firming the seed; for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work; and for guaranteeing germination and healthy, vigorous growth of native vegetation as determined by the Engineer.

### **BID ITEM 90059 – SCULPTURE FOUNDATION**

## **DESCRIPTION**

This item shall include all work, equipment, materials and incidentals necessary to install cast-in-place concrete footings, reinforcing and all hardware for the Badger Sculpture as indicated in the Drawings. Ensure that the footings are installed level, true, and to the minimum depths indicated and with all subbase preparation, base materials, reinforcing, anchor hardware, bolt hardware, and/or other materials or hardware necessary to complete the installation of the sculpture (note: sculpture will be provided by the City and is not considered part of this item). Ensure that the footings have fully cured before installing the adjacent poured-in-place surfacing, which is paid separately.

## **MATERIALS**

### ***Concrete Footings***

Provide concrete in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base"; specific mixture design (including admixtures and any/all other materials) must be submitted to the City Engineer for review and approval prior to use on the project.

Provide cylinder testing for all concrete materials.

### ***Aggregate Base***

Provide aggregate in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base".

### ***Reinforcing***

Provide reinforcing in conformance with Section, "Site Specialty Items and Landscaping, General / Concrete, Reinforcing and Aggregate Base".

## **METHOD OF MEASUREMENT**

Sculpture Foundation shall be measure as Each item acceptably completed.

## **BASIS OF PAYMENT**

Sculpture Foundation, as measured above, is full compensation for providing all materials necessary to completely install the foundation, including all excavation, subbase preparation, base course aggregate, forming, cast-in-place concrete, reinforcement, hardware and other accessory materials required; and for all labor, tools, equipment and incidentals necessary to complete the work.

## **BID ITEM 90060 – ASPHALT REJUVENATOR**

## **DESCRIPTION**

This work shall consist of furnishing all labor, material and equipment necessary to perform all operations for the application of Asphalt rejuvenator, which shall be Reclamite Emulsified Maltene-Based Asphalt Rejuvenating Agent or an approved equivalent to bituminous asphaltic concrete surface courses. The rejuvenation of surface courses shall be by spray application of a cationic Maltene-Based Rejuvenating Agent composed of petroleum oils and resins emulsified with water. The base used for the emulsion shall be naphthenic. All work shall be in accordance with the specifications, any applicable drawings, and subject to the terms and conditions of this contract.

The Contractor shall present samples of materials, laboratory reports, calibration reports, and proof of work experience as required by these specifications to the Project Engineer prior to beginning work.

## MATERIALS

**Material Specifications:** The emulsion will be a naphthenic maltene-based rejuvenating agent composed of four petroleum maltene components (listed below) uniformly emulsified with water. Each bidder must submit with his bid a certified statement from the asphalt rejuvenator manufacturer showing that the asphalt rejuvenating emulsion conforms to the required physical and chemical requirements.

THE ASPHALT REJUVENATOR SHALL MEET THESE SPECIFICATIONS:

Property	Test Method	Min.	Max.
Viscosity @ 25°C, SFS	ASTM D244	15	40
Residue, w%	D244 (Mod) <sup>3</sup>	60	65
Miscibility Test	D244 (Mod.) <sup>2</sup>		Pass
Sieve Test, w%	D244(Mod.) <sup>1</sup>	-	0.1
Particle Charge Test	D244		Positive
Tests on Distillation Residue:			
Flash Point, COC, C	D92	196	-
Viscosity@ 60C, C	D2170	100	200
Asphaltenes, %w	D2006-70	-	1.00
Maltene Dist. Ratio (Polar Compounds) + (First Acidaffins) (Saturates) + (Second Acidaffins)	D2006-70	0.3	0.6
Polar Compounds/Saturates Ratio	D2006-70	0.5	
Asphaltenes, w%	D2006-70	1.0	
Saturated Hydrocarbons, w%	D2006-70	21	28

- 1- Test procedure identical with ASTM D-244 except that distilled water shall be used in place of two (2) percent sodium oleate solution.
- 2- Test procedure identical with ASTM D-244 except that .02 Normal Calcium Chloride solution shall be used in place of distilled water.
- 3- ASTM D-244 Modified Evaporation Test for percent of residue is made by heating 50 gram sample to 149 C (300 F) until foam ceases, then cool immediately and calculate results.

**Material Performance:** The rejuvenating agent shall have record of at least two years of satisfactory service as asphalt rejuvenating agent and in-depth sealer. Satisfactory service shall be based on the capability of the material to penetrate, replace lost maltene fractions, and decrease the viscosity and increase the penetration value of the in-place asphalt binder as follows; the viscosity shall be reduced by a minimum of forty-five (45) percent, the penetration value shall be increased by a minimum of twenty-five (25) percent. Testing shall be performed by an independent testing laboratory on extracted asphalt cement from pavement to a depth of three-eighths inch (3/8"). In addition, the pavement shall be in-depth sealed to prevent the intrusion of air and water.

The bidder must submit with their bid:

1. Asphalt Rejuvenator product name and descriptive literature. Literature shall be descriptive and detailed information and shall show it at least meets the material specifications.
2. A current Material Safety Data Sheet (MSDS) for the material.
3. The manufacturer's certification that the material proposed for use is in compliance with these specification requirements.
4. Previous use documentation and test data conclusively demonstrating that the rejuvenating agent has been used successfully for a period of two years by government agencies such as Cities, Counties, or DOT's.
5. Testing data from a minimum of five projects showing that the asphalt rejuvenating agent has been proven to perform, as heretofore required, through field testing by an independent testing laboratory as to the required change in the asphalt binder viscosity and penetration number.

## CONSTRUCTION

**Applicator Experience:** The asphalt rejuvenating agent shall be applied by an experienced applicator of such material. The Contractor must submit with his bid a list of five (5) projects on which he applied said rejuvenator. He shall indicate the project dates, number of square yards treated in each and the name and phone number of the manager in charge of each project.

A project superintendent knowledgeable and experienced in application of the asphalt rejuvenating agent must be present and in control of each day's work. The bidder shall submit at the preconstruction meeting a written experience outline of the project superintendent.

**Application Temperature and Weather Limitations:** The temperature of the asphalt rejuvenation emulsion, at the time of application shall be as recommended by the manufacturer. The asphalt rejuvenating agent shall be applied only when the existing surface to be treated is thoroughly dry. The asphalt rejuvenating agent shall not be applied when the ambient temperature is below 40 degrees Fahrenheit or when temperatures are forecasted to fall below 35 degrees Fahrenheit within twenty-four (24) hours of application. It shall be the discretion of the Construction Engineer to determine when weather conditions are not appropriate for the application to occur. Contractor shall halt the application process when so ordered by the Construction Engineer.

**Handling of Asphalt Rejuvenating Agent:** Contents in tank cars or storage tanks shall be circulated at least forty-five minutes before withdrawing any material for application. When loading the distributor, the asphalt rejuvenating agent concentrate shall be loaded first and then the required amount of water shall be added. The water shall be added into the distributor with enough force to cause agitation and thorough



mixing of the two (2) materials. To prevent foaming, the discharge end of the water hose or pipe shall be kept below the surface of the material in the distributor which shall be used as a spreader. The distributor truck will be cleaned of all of its asphalt materials, and washed out to the extent that no discoloration of the emulsion may be perceptible. Cleanliness of the spreading equipment shall be subject to inspection and the Contractor shall halt the application process when so ordered by the Construction Engineer.

**Application Equipment:** The distributor for spreading the emulsion shall be self-propelled, and shall have pneumatic tires. The distributor shall be designed and equipped to distribute the asphalt rejuvenating agent uniformly on variable widths of surface at readily determined and controlled rates from 0.05 to 0.5 gallons per square yard of surface, and with an allowable variation from any specified rate not to exceed five (5) percent of the specified rate.

Distributor equipment shall include full circulation spray bars, pump tachometer, volume measuring device and a hand hose attachment suitable for application of the emulsion manually to cover areas inaccessible to the distributor. The distributor shall be equipped to circulate and agitate the emulsion within the tank. A check of distributor equipment as well as application rate accuracy and uniformity of distribution shall be made when directed by the Construction Engineer.

The truck used for sanding shall be equipped with a spreader that allows the sand to be uniformly distributed onto the pavement. The spreader shall be able to apply 1 to 4 pounds of sand per square yard in a single pass. The spreader shall be adjustable so as to not broadcast sand onto driveways or tree lawns. Any equipment which is not maintained in full working order, or is proven inadequate to obtain the results prescribed, shall be repaired or replaced at the direction of the Construction Engineer.

**Application of Rejuvenating Agent:** The asphalt rejuvenating agent shall be applied by a distributor truck at the temperature recommended by the manufacturer and at the pressure required for the proper distribution. The emulsion shall be so applied that uniform distribution is obtained at all points of the areas to be treated.

Distribution shall be commenced with a running start to insure full rate of spread over the entire area to be treated. Areas inadvertently missed shall receive additional treatment as may be required by a hand sprayer application. Application of the asphalt rejuvenating agent shall be on no more than one-half width of the pavement at a time. When the second half of the surface is treated, the nozzle nearest the center of the road shall overlap the previous by at least one-half the width of the nozzle spray. In any event the construction joint of the pavement shall be treated in both passes of the distributor truck.

Before spreading, the asphalt rejuvenating agent shall be blended with water at the rate of 60% rejuvenating agent and 40% water, by volume or as specified by the manufacturer. The combined mixture of asphalt rejuvenating agent and water shall be spread at the rate of 0.05 to 0.10 gallons per square yard, or as approved by the Construction Engineer following field testing. Where more than one application is to be made, succeeding applications shall be made as soon as penetration of the preceding application has been completed and approval is granted for additional applications by the Construction Engineer. Grades or super elevations of surfaces that may cause excessive runoff in the opinion of the Construction Engineer shall have the required amounts applied in two (2) or more applications as directed. Said treatment shall be uniformly applied by a method acceptable to the Construction Engineer.

Care should be taken during all rejuvenator applications to not get excessive material on the curb and gutter. Additional cleaning may be required if this occurs at the contractor's expense. After the rejuvenating emulsion has penetrated, a coating of sand shall be applied to the surface in sufficient amount to protect the traveling public as required by the Construction Engineer. The Contractor shall furnish a quality inspection report showing the source and manufacturer of asphalt rejuvenating agent.

When directed by the Construction Engineer, the Contractor shall take representative samples of material for testing.

**Street Sweeping:** The Contractor shall be responsible for sweeping and cleaning of the streets prior to and after treatment. Prior to treatment, the street will be cleaned of all standing water, dirt, leaves, foreign materials, etc. This work shall be accomplished by hand brooming, power blowing or other methods approved by the Construction Engineer. If hand cleaning is not sufficient, then a self-propelled street sweeper shall be used. All sand used during the treatment must be removed no later than forty-eight (48) hours after treatment of the street. This shall be accomplished by a combination of hand and mechanical sweeping. All turnouts, cul-de-sacs, etc. must be cleaned and free of any material that would interfere with the treatment. All debris generated by sweeping shall be picked up and disposed of by the contractor. Street sweeping shall be included in the price bid per square yard for asphalt rejuvenating agent. If after sand is swept and it is determined that a hazardous condition exists on the roadway, the Contractor must apply additional sand and sweep no later than twenty-four (24) hours following reapplication. No additional compensation will be allowed for reapplications and removal of sand.

**Traffic Control and Safety:** The Contractor shall schedule operations and carry out the work in a manner consistent with the traffic control specifications. Treated portions of the pavement surfaces shall be kept closed and free from traffic until penetration has become complete and the area is suitable for traffic. Cure time shall be no longer than 90 minutes. The Contractor shall notify the Construction Engineer the schedule of treatment each day.

**Spreading/Ordering of Sand or Screenings:** The Contractor will furnish and apply sand or lime screenings as required by the Construction Engineer if the street is open to traffic. The contractor shall furnish all equipment, tools, labor and incidentals necessary to perform the sanding operation in accordance with this contract. Spreading shall consist of applying free flowing sharp sand, FA2 or limestone screenings to insure even distribution of the sand or screenings to be worked into any voids in the payment surface as directed by Construction Engineer. A twin spinner, rubber belt feed system aggregate distributor shall be used for uniform application. The aggregate distributor shall apply sand or screenings at a rate of 1-4 pounds per square yard.

Aggregate distributor must be able to carry enough aggregate to cover an applied load of the rejuvenating agent, at least (9) nine tons. Repeated sanding may be required on some areas of pavement and contractor must be available on an as needed basis to provide the required sanding.

## **METHOD OF MEASUREMENT**

Asphalt Rejuvenator shall be measured by the Square Yard acceptably installed.

## **BASIS OF PAYMENT**

Asphalt rejuvenator, measured as provided above, will be paid for at the contract unit price, which shall be full compensation for furnishing all materials, equipment, sweeping, labor, testing and incidentals to complete the work as specified.

## **BID ITEM 90065 – RECONSTRUCT CATCHBASIN TO SAS CASTING**

### **DESCRIPTION**

Work under this item shall include removing the roof and any adjustment from an existing catchbasin structure, lowering the walls up to 12 inches, constructing a new roof to accommodate a standard R-1550-0054 City of Madison SAS castings (included as part of this item), and installation of the new castings to

the proposed grade. The new roof shall be constructed to be in compliance with the roof detail for sewer access structures in the Standard Specifications for Public Works Construction. This item includes all materials, incidentals, and labor required to complete the work. This item includes disposal of the existing casting and provision of a new sewer access structure casting.

Castings shall be placed "in line" with traffic or concrete pavement joints to minimize being placed in traffic wheel paths. Offsetting the casting as necessary to meet these requirements is included with this item.

#### **METHOD OF MEASUREMENT**

Reconstruct Catchbasin to SAS Casting shall be measured as each for every completed structure reconstruction.

#### **BASIS OF PAYMENT**

Reconstruct Catchbasin to SAS Casting shall be measured as described above and paid at the contract price which shall be full compensation for all work, materials, and incidentals to complete the work as outlined in the description.

#### **BID ITEM 90066 – 8' x 4' RCP 45 DEGREES PRECAST BEND**

##### **DESCRIPTION**

Where shown on the drawings, the Contractor shall provide an 8' x 4' RCP 45 Degrees Precast Bend. Field-poured bends will not be an approved alternative at these locations.

Where precast sections are combined to form a precast bend, adequate reinforcing from each section shall be exposed and tied together. A reinforced concrete collar shall then be provided around the entire perimeter of this joint. Collar shall be sized to provide a minimum of 2-inch coverage over all reinforcing and strength equivalent to the rest of the pipe section. The interior of the joint shall be finished smooth to match the interior of adjoining surfaces.

##### **METHOD OF MEASUREMENT**

8'x4' RCP 45 Degrees Precast Bend shall be measured as each for the individual or multiple precast bend sections that are assembled to provide the total angle required

##### **BASIS OF PAYMENT**

8' X 4' RCP 45 Degrees Precast Bend shall be paid for according to the unit price bid. Price bid shall include all materials, labor and equipment necessary for a complete installation as specified in the description.

#### **BID ITEM 90067 – 7' x 7' STORM SAS**

##### **DESCRIPTION**

Work under this item includes the construction of a new 7'x7' field poured storm structure, providing and installing 1 (1) casting (R-1550-0054), setting and adjustment of the casting to the grade as called out in the plan set or as directed in the field. The 7'x7' field poured SAS shall have steel reinforcement and wall dimensions as described below:

- a. Roof thickness increased to 10" in vertical thickness.
- b. Roof reinforcement shall be #6 bars 4" on center in the long dimension with #6 bars on 8" centers in the short dimension.
- c. Diagonal (45 degree) bars shall be provided around the cutouts for the SAS casting on the structure.
- d. Long bars shall be centered 3" above the bottom of the roof with crossing bars tied above.
- e. The walls and floor shall be reinforced with #6 bars on 12" centers in both directions.
- f. Floor thickness shall be 10".

The Contractor shall either use epoxy coated steel for all reinforcement or shall provide concrete mix that is made with XYPEX C-1000 in accord with the manufactures recommendations. The option is the Contractors. Decision shall be documented in writing to the City of Madison Construction Engineer.

The minimum compressive strength at twenty-eight (28) days for all concrete used on this item shall be four thousand (4000) pounds per square inch.

This item shall be constructed in accordance with Part III and V of the City of Madison Standard Specifications for Public Works Construction.

#### **METHOD OF MEASUREMENT**

7'x7' Storm SAS shall be measured as each completed unit. The contract price shall include

#### **BASIS OF PAYMENT**

7'x7' Storm SAS shall be measured as described above and paid at the contract price which shall be full compensation for all work, materials, and incidentals to complete the work in accordance with the description, including furnishing all materials necessary to perform the work, including the casting unless specified to include a salvaged casting; excavation; installation and removal of sheeting and bracing; disposal of surplus material from the excavation; backfilling the excavation and compaction of the backfill material; preparation of the foundation; construction of the structure, including connections; cleaning out the structure; and all other work incidental to the installation of sewer access structures.

#### **BID ITEM 90068 -3'x 3' SAS MODIFIED**

#### **DESCRIPTION**

3'x3' SAS-Modified shall include all work necessary to provide and install 3' x 3' SAS on top of a box culvert (proposed or existing) when called out on the plans. The box culvert shall have a 2'x2' opening cut into the top of the box section and a standard 3' x 3' SAS (with no floor) shall be provided on top of the vertical tap and sealed with mastic. The 3' x 3' SAS shall be per City of Madison Standard Specification for Public Works Construction for a storm sewer access structure.

#### **METHOD OF MEASUREMENT**

3' x 3' SAS Modified shall be measured by each unit completed in place and satisfactorily installed.

#### **BASIS OF PAYMENT**

3' x 3' SAS Modified shall be measured as described above and paid at the contract price which shall be full compensation for all work, materials, and incidentals to complete the work in accordance with the description.

## **BID ITEM 90069 – RIGID FRAME INLET PROTECTION-COMPLETE**

### **DESCRIPTION**

Rigid Frame Inlet Protection-Complete is intended to temporarily minimize sediment from entering storm drainage systems, and shall be installed at locations shown on the plans during construction or as directed by. Rigid Frame Inlet Protection-Complete shall follow ASTM D8057 and comply with WDNR Conservation Practice Standard 1060. All work shall be in accordance with Part II of the standard specifications.

### **MATERIALS**

Rigid Frame Inlet Protection-Complete supplied shall be a FleXstorm "Catch-It" system or an approved equal. The supplied protection system must have a corrosion resistant framing and a replaceable geotextile sediment bag.

### **CONSTRUCTION METHODS**

Install the Rigid Frame Inlet Protection-Complete in accordance with the manufacturer's instructions at the locations shown on the plan and as directed by the Construction Engineer. Perform all maintenance activities as directed by the Engineer, which shall include cleaning of the inlet protect or replacement as directed. Maintenance as often as required is included with this bid item.

Upon completion of the project or required phase, the Contractor shall remove the inlet protection as directed.

### **METHOD OF MEASUREMENT**

Rigid Frame Inlet Protection-Complete shall be measured by each completed in place installation, maintenance, and removal.

### **BASIS OF PAYMENT**

Rigid Frame Inlet Protection-Complete shall be measured as described above which shall be full payment for installing, maintaining, removing, and for all work, materials, labor, and incidentals required to complete the work.

## **BID ITEM 90070 – 8' X 4' ASTM - C-1433 BOX CULVERT- INSTALLATION**

### **DESCRIPTION**

This item shall include all work and coordination necessary to provide and install the 8' x 4' box culvert as shown on the plan set, and as detailed here. This includes all bends, joint material, bedding and backfill as described. The box shall meet ASTM C-1433 Table #1 for HS-20 loading. The box shall be manufactured, provided and installed with the appropriate amount of reinforcing steel based on the depth of cover provided along the profile of the box. If the box steel is varied along the length of the box installation, the Manufacturer and the Contractor shall provide a plan to the Construction Engineer to assure that the appropriate box sections are installed in the correct locations along the box run.

This item includes all necessary removal and disposal of excess trench excavation off site at an off-site location to be provided by the Contractor. Further, the work under this item includes stockpiling and reuse of trench spoils for backfill of the trench.

The Contractor shall be responsible for coordinating delivery of the box, unloading and other incidentals associated with the installation.

All necessary shoring and protection of existing utilities is included with the box culvert installation.

Provide and install any necessary field-poured or precast bends to follow the alignment as shown on the plans.

The Contractor shall abide by the following guidelines when installing the box culvert:

- 1) The subgrade for the boxes shall have filter fabric (paid under **BID ITEM 20233 - RIPRAP FILTER FABRIC, TYPE HR**) placed on all exposed subgrade areas prior to placement of the bedding stone for the boxes.
- 2) One (1) foot of three (3) inch clear stone shall then be placed on the geotextile as bedding stone. Three (3) inch clear stone for box culvert bedding is included in the price of box culvert installation.
- 3) Those portions of the box culvert under the pavement structure backfill shall be in accord with SDD 5.2.1 & SDD 5.2.2. Provision and placement of backfill is included in the price of this bid item.
- 4) The joints of the box culverts shall be sealed with seal-tight across the inside bottom and up the entire length of the inside vertical walls. Sealwrap shall be placed across the outside top of the box and completely down the outside vertical sides of the box. Provision and installation of all joint material is included in the price of the box culvert.

#### **METHOD OF MEASUREMENT**

8'x4' ASTM – C-1433 Box Culvert - Installation shall be measured by the centerline lineal foot for box culvert provided and installed. Also included in measurement is any field pour or precast bends installed to follow the plan alignment.

#### **BASIS OF PAYMENT**

8'x4' ASTM – C-1433 Box Culvert - Installation, as measured above, shall be considered full compensation for all work, materials, and incidentals required to complete the work as described above.

#### **BID ITEM 90071 – STORM CONTROL PLAN AND IMPLEMENTATION**

##### **DESCRIPTION**

Work under this item shall include all work, materials, equipment, and incidentals required to control dry and wet weather flow in the storm sewer system during the reconstruction project. The Contractor shall take all necessary steps to protect the new and existing storm mains from damage during construction and to accommodate the existing flows during construction.

This item includes all storm control necessary for all aspects of the Construction including installation of new sanitary and storm sewer, and water main.

Note: The storm control shall include coffer dams and/ or pipe flow barriers to prevent back water flow from Lake Wingra or other water ponds. Back water control will specifically be needed at the intersection of Pickford and Monroe Street and at the outfall on Monroe Street between Lewis Court and Glenway Street

#### **METHOD OF MEASUREMENT**

Storm Control Plan and Implementation shall be measured by the lump sum for all work necessary throughout construction to control storm flows.

#### **BASIS OF PAYMENT**

Storm Control Plan and Implementation shall be paid for at the contract price, which shall be full compensation for all work as outlined in the description.

#### **BID ITEM 90073 – 3' X 6' STORM SAS**

#### **DESCRIPTION**

This item includes all necessary work, materials, excavation, preparation, sawcut and removal of existing pipe, doweling, curing, and any incidentals necessary to construct structures called out as "3X6 SAS" on the storm sewer schedule.

It is intended that the structure shall be constructed on a 12" bed of compacted crushed stone.

This item shall be constructed in accordance with Part III and V of the City of Madison Standard Specifications for Public Works Construction.

#### **MEATHOD OF MEASUREMENT**

Structure shall be measured as each completed unit, acceptably installed. The contract price shall include furnishing all materials necessary to perform the work, including castings unless specified to include a salvaged casting; excavation; installation and removal of sheeting and bracing; disposal of surplus material from the excavation; backfilling the excavation and compaction of the backfill material; preparation of the foundation; construction of the structure, including connections; cleaning out the structure; restoring the site; and all other work incidental to the installation of sanitary sewer access structures.

#### **BASIS OF PAYMENT**

3'x6' Storm SAS, measured as provided above, shall be paid at the contract unit price, which price shall include furnishing all materials necessary to perform the work, including castings unless specified to include a salvaged casting; excavation; installation and removal of sheeting and bracing; disposal of surplus material from the excavation; backfilling the excavation and compaction of the backfill material; preparation of the foundation; construction of the structure, including connections; cleaning out the structure; restoring the site; and all other work incidental to the installation of sanitary sewer access structures.

## **BID ITEM 90074 – 3' X 4' BOX CULVERT**

### **DESCRIPTION**

This item shall include all work and coordination necessary to provide and install the 3' x 4' box culvert as shown on the plan set, and as detailed here. This includes all bends, joint material, bedding and backfill as described. The box shall meet ASTM C-1433 Table #1 for HS-20 loading. The box shall be manufactured, provided and installed with the appropriate amount of reinforcing steel based on the depth of cover provided along the profile of the box. If the box steel is varied along the length of the box installation, the Manufacturer and the Contractor shall provide a plan to the Construction Engineer to assure that the appropriate box sections are installed in the correct locations along the box run.

This item includes all necessary removal and disposal of excess trench excavation off site at an off-site location to be provided by the Contractor. Further, the work under this item includes stockpiling and reuse of trench spoils for backfill of the trench.

The Contractor shall be responsible for coordinating delivery of the box, unloading and other incidentals associated with the installation.

All necessary shoring and protection of existing utilities is included with the box culvert installation.

Provide and install any necessary field-poured or precast bends to follow the alignment as shown on the plans.

The Contractor shall abide by the following guidelines when installing the box culvert:

- 1) The subgrade for the boxes shall have filter fabric (paid under **BID ITEM 20233 - RIPRAP FILTER FABRIC, TYPE HR**) placed on all exposed subgrade areas prior to placement of the bedding stone for the boxes.
- 2) One (1) foot of three (3) inch clear stone shall then be placed on the geotextile as bedding stone. Three (3) inch clear stone for box culvert bedding is included in the price of box culvert installation.
- 3) Those portions of the box culvert under the pavement structure backfill shall be in accord with SDD 5.2.1 & SDD 5.2.2. Provision and placement of backfill is included in the price of this bid item.
- 4) The joints of the box culverts shall be sealed with seal-tight across the inside bottom and up the entire length of the inside vertical walls. Sealwrap shall be placed across the outside top of the box and completely down the outside vertical sides of the box. Provision and installation of all joint material is included in the price of the box culvert.

### **METHOD OF MEASUREMENT**

3'x4' Box Culvert shall be measured by the centerline lineal foot for box culvert provided and installed. Also included in measurement is any field pour or precast bends installed to follow the plan alignment.

### **BASIS OF PAYMENT**

3'x4' Box Culvert, as measured above, shall be considered full compensation for all work, materials, and incidentals required to complete the work as described above.



## **BID ITEM 90075 – ROCK INFILTRATION TRENCH**

### **DESCRIPTION**

Work under this item shall include all necessary work, materials, and incidentals necessary to construct the rock infiltration trench at the location called for in the plan set. The structure corresponds with sheets RT-1 in the plan set and storm sewer schedule, and is detailed on RT-2 in the plan set.

### **MATERIALS**

The Rock Infiltration Trench item consists of Non-Woven Geotextile fabric, Washed Pea Gravel, Clear Stone, 6" Schedule 30 perforated PVC pipe, 6" solid PVC pipe, and 2 inspection pipes with screw caps.

### **CONSTRUCTION METHODS**

The Contractor shall excavate the rock trench areas to appropriate depths as shown in the plans and details and install PVC pipes, inspection pipes, and place fabric and backfill materials as shown in the details. Connection of piping to inlet structures is included with this item.

Upon installation of all piping and rock materials, the top of the rock trenches shall be covered with topsoil and sod, or with topsoil seed & erosion mat per the Standard Specifications and these special provisions. Landscape restoration of the rock trench areas will be paid under the appropriate bid items.

### **METHOD OF MEASUREMENT**

Rock Infiltration trench shall be measured by each completed in place and satisfactorily installed.

### **BASIS OF PAYMENT**

Payment for this item shall be full compensation for construction of the rock infiltration trench with the materials as shown in the RT-1 and RT-2, including all excavation, hauling, equipment and incidentals necessary to complete the work. If the entire rock trench is not constructed due to utility conflicts, then a prorated portion of the rock trench will be paid based on the ratio of the total linear feet constructed compared to the total in the plan set.

## **BID ITEM 90076– WINGRA SCREEN TREATMENT STRUCTURE**

### **DESCRIPTION**

Work under this item shall include all necessary work, materials, and incidentals necessary to construct the treatment structure including the provision and installation of static tilted "Coanda effect" wedge-wire screens at the location called for in the plan set. The structure corresponds with sheets SS-1 in the plan set and storm sewer schedule, and is detailed on SS-2 and SS-3 in the plan set.

The dimensions of the treatment structure shall conform to those indicated in the construction detail sheets. This item shall include all materials required for construction the structure including but not limited to: concrete, W10X45 steel I-beam, rebar reinforcement, clear stone, heavy riprap filter fabric, PVC pipe, castings. Cold weather protection (if used) for installation of the structure shall be incidental to the contract. Construction of this structure shall be in accord with Section 507 of the Madison Standard Specifications for Public Works Construction 2017 Edition, and as further specified herein.

SIX (6) coanda screens, dimensions 2.5' X 3.53', shall be provided and installed in the structure, as shown in the details. The screens shall be purchased by the Contractor (self-constructed options shall not be allowed) and the contractor shall be responsible for coordination and timing of delivery, unloading, and installation of the screen. The screens shall be self-supporting and shall be suitably framed for mounting on concrete supporting walls or frames if required. The screen material and all supporting bars and fasteners shall be Type 304 Stainless Steel. The wedge shaped profile wire screen material shall be Type #63 having 1.0 mm wire spacing. The wires shall be tilted 5 degrees from a plane perpendicular to the supporting bars; all wires shall be welded in a workman like manner.

The support bars shall be rectangular in form, and sized and spaced to accommodate the hydraulic loading of up to 2 feet without damage to the screen. The screen material shall be free of weld spatter. The screen assemblies shall be as manufactured by Hydroscreen, 2390 Forest Street, Denver Colorado 80207 (phone 1-303-333-6071, email rkweir@aol.com) or approved equal. All screen shall be manufactured in a flat condition; screen that is cut and straightened after a cylindrical manufacturing process is not acceptable.

The Contractor shall install the screen according to manufacturer's specifications and guidance and shall be anchored to the concrete on twelve inch centers with 3/8" anchor tight bolts.

Bidder shall submit the name and qualifications of its screen supplier to the City Design Engineer for approval at or before the pre-construction meeting. The supplier shall have been in business for a period of a minimum of five years, and have completed at least three similar projects. A minimum of three references, including contact information, shall be supplied to the City Design Engineer with the submittal.

Prior to manufacture of the screens, the Contractor shall submit plans and/or details for the screens, including but not limited to mounting and bracing/support information, to the City Design Engineer for approval.

The Design Engineer for this project is Phil Gaebler at 608-266-4059 or [pgaebler@cityofmadison.com](mailto:pgaebler@cityofmadison.com).

## **METHOD OF MEASUREMENT**

Wingra Storm Treatment Structure shall be measured as a completed unit upon complete construction of the structure in the field.

## **BASIS OF PAYMENT**

Wingra Storm Treatment Structure shall be measured as described above which shall be full compensation for all work, materials and incidentals to complete the work as explained in the description above.

## **BID ITEM 90077 – 3' X 3' STORM SAS WITH SUMP**

### **DESCRIPTION**

Work under this item shall include all necessary work, materials, and incidentals necessary to construct a City of Madison standard 3'x3' storm sewer access structure with a 3-ft sump at the locations called for in the plan set. The Sump shall have vertical walls and shall be the full inside dimension of the structure. All work shall be in accordance with Part V of the Standard Specifications.

## **METHOD OF MEASUREMENT**

3' X 3' Storm SAS with sump shall be measured as a completed unit upon complete construction of the structure in the field.

## **BASIS OF PAYMENT**

3' X 3' Storm SAS with sump shall be measured as described above which shall be full compensation for all work, materials and incidentals to complete the work as explained in the description above.

## **BID ITEM 90078– BIORETENTION CONSTRUCTION**

### **DESCRIPTION**

Work under this item shall include all work (including but not limited to excavation, removal and disposal of existing material, provision and placement of engineered material and construction of curb cut), all materials (including but not limited to engineered fill, clear stone, concrete, underdrain and landscape fabric), labor, and incidentals required to construct all the bioretention systems meeting the sizes, locations, specifications, and detail drawings contained in this document and in the plan set.

This item does not include planting of the rain garden system. Planting will be completed by others or shall be completed per the plans and paid under the appropriate bid items.

There are 3 bioretention areas with a combined area of approximately 1400 sf. This item does include excavation of approximately 260 cubic yards (cy), the placement of Filter Fabric type HR, approximately 103 cy of 3-inch Clear Stone, approximately 160 cy of Engineered Soil. Refer to detail drawings L-5, L-9, BR-1 and BR-2.

If fill or excavated material is to be stored overnight, or during a possible rain event, it shall either be covered or have the perimeter controlled with silt sock or silt fence. All control measures applied to stockpiled material shall be considered incidental to this bid item. All materials, work, and incidentals required to complete this work are included in this bid item.

## **METHOD OF MEASUREMENT**

Bioretention Construction shall be measured in square feet for satisfactory construction of all bioretention systems in the plan set.

## **BASIS OF PAYMENT**

Bioretention Construction, measured as provided above, shall be full compensation for all work including all materials, and incidental costs related to construction of all systems shown in this plan set.

## **BID ITEM 90079 – PRECAST CONCRETE SIDEWALK PANEL**

### **DESCRIPTION**

This work shall consist of providing and installing precast pervious concrete sidewalk. The precast pervious sidewalk shall be installed per the manufacturers specification, including any filter fabric materials, and shall include an underdrain routing water to the adjacent bioretention device. The location

and the area of the pervious concrete is located in sheet L-1. The precast concrete panels will shall have the following specifications at a minimum

Minimum 4,000 psi compression strength  
(based off average flexural strengths of 500 psi per ASTM C78)

Infiltration rate of 500 inches/hour per ASTM C1701

Void Ratio depending on application range from 15-25% per

Precast Concrete Panels shall be installed on 12" of 1" clear stone base. The clear stone base is included with this bid item. Wrap the excavated area with geotextile fabric prior to placing clear stone base. All fabrics necessary to install the panels are included with the bid item.

#### **METHOD OF MEASUREMENT**

The precast pervious concrete will be measured in square feet acceptably installed.

#### **BASIS OF PAYMENT**

The area, measured as provided above, shall be paid for at the contract unit price per square foot for precast pervious concrete sidewalk, which price shall be full compensation for furnishing all materials, including the precast concrete panels, expansion joints; for excavations and preparation of subgrade including subbase, backfilling, and disposal of surplus material; for placing, finishing, jointing, for providing and placing crushed aggregate base course, providing and placing the underdrain; and for all labor, tools, equipment and incidentals necessary to complete the work and restore the site of the work.

#### **BID ITEM 90080 – REMOVE CLEANOUT**

##### **DESCRIPTION**

Work under this item shall include removal and disposal of the cleanouts called for removal on the plan set. All removal work shall be completed in accordance with Article 203.2 of the City of Madison Standard Specifications for Public Works Construction Latest Edition.

##### **METHOD OF MEASUREMENT**

Remove Cleanout shall be measured by each cleanout removed, acceptably completed.

##### **BASIS OF PAYMENT**

Remove Cleanout, measured as described, which will be paid at the contract unit price, which shall be full compensation for all materials, labor, equipment, and incidentals necessary to acceptably complete the work as set forth in the description.

#### **BID ITEM 90081 – SANITARY SEWER PRESSURE LATERAL**

##### **DESCRIPTION**

Work under this item shall include the installation of pressure sanitary lateral in the location where the proposed sanitary sewer main is pressure sewer main. The ductile iron fittings which are utilized with the

AWWA C900 Class 150 DR 18 pipe do not properly connect to ASTM D3034 SDR-35 pipe type. The proposed pressure sanitary lateral shall be installed in conformance to the Article 503.3 of the City of Madison Standard Specifications for Public Works Construction Latest Edition.

#### **METHOD OF MEASUREMENT**

Sanitary Sewer Pressure Lateral shall be measured by the linear foot, acceptably installed in place, in accordance with Article 503.4 of the Standard Specifications.

#### **BASIS OF PAYMENT**

Sanitary Sewer Pressure Lateral, measured as described, which will be paid at the contract unit price, which shall be full compensation for all materials, labor, equipment, and incidentals necessary to acceptably complete the work as set forth in the description.

#### **BID ITEM 90082 – INSTALL BACKFLOW PREVENTER**

##### **DESCRIPTION**

Work under this item shall include the installation of a backflow preventer in the locations called out on the plans.

The Backflow preventer shall be the Rector Clean Seal with the Sioux Chief 850-4I cleanout cover casting (HD Supply) or approved equivalent. Installation of the backflow preventer shall be in accordance with manufacturers recommendations and Article 507 of the City of Madison Standard Specifications for Public Works Construction Latest Edition.

##### **METHOD OF MEASUREMENT**

Install backflow preventer shall be measured by each backflow preventer, acceptably completed.

##### **BASIS OF PAYMENT**

Install backflow preventer, measured as described, which will be paid at the contract unit price, which shall be full compensation for all materials, labor, equipment, and incidentals necessary to acceptably complete the work as set forth in the description.

#### **BID ITEM 90083 – WASTEWATER CONTROL- CITY**

##### **DESCRIPTION**

Work under this bid item shall include wastewater control (bypass pumping of the sewer being replaced) in the amount of 1200 gpm maximum. Work shall be completed in accordance with Article 503.3 of the City of Madison Standard Specifications for Public Works Construction Latest Edition.

We are anticipating 500 gpm bypass (300 gpm average flow, 500 gpm peak flow) for the sewer main west of Glenway Ave. on Monroe Street based upon the operating levels of the sewer main according to the CCTV. Between Glenway Ave and Knickerbocker St, we are anticipating 800 gpm bypass being required (300 gpm average, 800 gpm Peak). The sewer is operating at 70% capacity but this should be greatly reduced after the sewer connection to the MMSD manhole at to Glenway Ave.

East of Knickerbocker to Sprague, we anticipate 1200 gpm bypass being required (1200 gpm Peak). According to the CCTV, this sewer is running close to capacity. This may be a backwater condition from the sewer on Knickerbocker Street sewer main because the contributing sewer basin size is only 97 acres. Between Edgewood Ave and Oakland Ave., we recommend planning for 500 gpm of bypass flow (250 gpm average flow and 500 gpm peak flow).

For the manhole installation at Crazy Legs and Regent Street (SAS#3), a bypass of 1800 gpm is recommended based upon flow observations of the 18" diameter sewer (flowing half full). It is recommended that contractors look at flow conditions prior to planning for wastewater control plan.

#### **METHOD OF MEASUREMENT**

Wastewater Control- City shall be measured by the Lump Sum acceptably completed.

#### **BASIS OF PAYMENT**

Wastewater Control- City measured as described, which will be paid at the contract unit price, which shall be full compensation for all materials, labor, equipment, and incidentals necessary to acceptably complete the work as set forth in the description.

#### **BID ITEM 90084 – WASTEWATER CONTROL- MMSD**

#### **DESCRIPTION**

Work under this bid item shall include wastewater control (bypass pumping of the sewer being replaced) in the amount of 3600 gpm maximum. Work shall be completed in accordance with Article 503.3 of the City of Madison Standard Specifications for Public Works Construction Latest Edition with the following additional requirements by MMSD.

#### **BYPASS PUMPING/DIVERSION**

The Contractor shall provide for the continuous flow of sewage around the sections of sewer line designated for replacement. A bypass shall be installed by plugging the line at an existing upstream sewer access structure and pumping or directing the flow to a downstream sewer access structure. The pump(s) and bypass lines shall be of adequate capacity and size to handle the flow. Raw sewage shall be routed back to the sanitary sewerage system or hauled and disposed of as approved by MMSD.

Bypass pumping shall be limited to the regular hours of work as provided by MMSD unless necessitated by an emergency beyond the Contractor's control. A representative of the Contractor must be on-site at all times that bypass pumping is in operation.

If the Contractor elects to use bypass pumping as a means of sewerage control, the methods, equipment, type of hose, etc., shall be subject to approval by the Engineer. Hoses crossing streets, driveways, parking areas, etc., are to be ramped over to prevent damage to the pipes and hoses.

All pumping discharge pipe shall be tested and demonstrated to be leak-free. All discharge pipe shall be hydrostatically tested to 60 psi prior to being placed into service. Protection shall be provided for pipes crossing traffic lanes, driveways, bike lanes, sidewalks, parking areas, etc. Selection of pumping equipment, pipe size, pipe support, and appurtenances shall be the responsibility of the Contractor and subject to approval by the Engineer.

Bypass pumps shall be sized to handle the required peak flow capacities as discussed. Redundant pumps are required for all bypass pumping set ups. Pumps shall be continuous self-priming and capable of running dry unattended.

Bypass system shall include a calibrated flow meter with a visual display showing gallons per minute. Meter shall be accurate to plus or minus 10% at the anticipated flowrates.

Establish a continuously staffed pump watch during all hours of bypass operation. At each suction location, establish a stable measuring point at a known elevation tied to OWNER's vertical datum. Measure down from this point to the waste water surface and record the waste water surface elevation at least once each hour. Also record the flow meter reading once each hour.

At each suction location, provide a float operated high water alarm at an elevation approved by the Engineer. High water float shall trip audio, visual, and telephone alarms. Telephone alarm shall call at least one phone number that will be answered 24 hours a day by a responsible person.

All pumps shall be started at least once per day to ensure proper operation and reliability. Any pump does not start or is found to be inoperable shall be serviced or replaced immediately.

Bypassing will not be permitted in the event of current or predicted wet weather. The Engineer reserves the right to determine when bypassing will or will not be allowable in wet weather

No spillage of wastewater to adjacent streets, lawns, etc., shall be tolerated. If any such spillage should occur, all construction operations shall cease and cleanup shall commence immediately and be completed to the satisfaction of the Engineer prior to the resumption of any construction operations.

Contractor shall familiarize himself with the sanitary sewerage facilities and develop an adequate bypassing plan. A written plan shall be submitted to the Engineer and approved by MMSD prior to the start of work.

MMSD's contact regarding wastewater control on MMSD facilities is Jen Hurlebaus 222-1201 Ext: 248 [jenh@madsewer.org](mailto:jenh@madsewer.org).

## **METHOD OF MEASUREMENT**

Wastewater Control- MMSD shall be measured by the Lump Sum acceptably completed.

## **BASIS OF PAYMENT**

Wastewater Control- MMSD measured as described, which will be paid at the contract unit price, which shall be full compensation for all materials, labor, equipment, and incidentals necessary to acceptably complete the work as set forth in the description.

## **BID ITEM 90085 – RECONDITION MMSD MANHOLE**

### **DESCRIPTION**

Work under this item shall include reconditioning MMSD Manhole MH02-150(STA 399+28.93 RT 25.99) as called for on the plan set. Reconditioning manhole shall include removal and disposal of the storm sewer pipe (appears to be 18" diameter) currently located inside the manhole structure. The storm sewer shall be removed up to the MMSD manhole walls. The storm sewer pipe shall then be plugged at the MMSD manhole walls. All pipe removal work and plugging shall be completed in accordance with Article 203.2 of the City of Madison Standard Specifications for Public Works Construction Latest

Edition and be paid for with the Recondition MMSD Manhole bid item. Tapping the manhole (BID ITEM 50791), reconstructing bench and flowlines (BID ITEM 50103), and wastewater control (BID ITEM 90074) will all be paid for separately under the appropriate bid items.

#### **METHOD OF MEASUREMENT**

Recondition MMSD Manhole shall be measured by each unit acceptably completed.

#### **BASIS OF PAYMENT**

Recondition MMSD Manhole shall be paid at the contract unit price, which shall be full compensation for all materials, labor, equipment, and incidentals necessary to acceptably complete the work as set forth in the description.

#### **BID ITEM 90090 – MAINTAIN STREET LIGHTS AND SUPPORT STRUCTURES FOR TEMPORARY TRAFFIC SIGNALS**

#### **DESCRIPTION**

The This special provision describes furnishing, installing, maintaining, and removing wood poles, guy wires, luminaires, arms as shown on the plans, and aerial cable to maintain 100% of the existing lighting system and furnishing and installing wood poles required for Temporary Traffic Signals. The wiring and signal heads for the temporary traffic signals will be installed and maintained by the City of Madison. The Contractor will remove the existing street light poles after temporary lighting has been installed and is operational.

Work for temporary wood poles and guy wires shall be according to State of Wisconsin Standard Spec 661.

#### **MATERIALS**

Furnish aerial cable consisting of an assembly of three No. 4 XLP insulated power conductors with an ACSR messenger (grounding) wire. Provide the quantity of parallel cable assemblies necessary to maintain lighting circuits within the project area and lighting circuits outside of the project area that are fed from the existing and temporary lighting circuits within the project area.

Furnish Type 4 wood poles, 35' long. Luminaires shall be minimum 100 watt LED, full cutoff mounted on 10 or 12 foot arms.

#### **CONSTRUCTION METHODS**

Maintain existing, temporary and proposed lighting within the construction limits for the duration of the project. Maintenance includes but is not limited to replacement of burned out lamps, replacement of knocked down poles and maintaining continuous lighting. The contractor shall keep either the existing or temporary streetlights in operation throughout the construction project until new lights are installed and operational. No outages in the lighting will be permitted.

Furnish and install additional wood poles and guy wires as required for temporary traffic signals to be installed and maintained by City of Madison. Contractor will be responsible for maintenance of temporary wood poles for traffic signals.



Provide off-hours contact name(s) and phone number(s) for the city and police department for repair purposes and be able to respond within 2 hours to the project site for knockdowns or other work that must be completed in a timely manner. All other maintenance needs shall be completed within 24 hours of notification.

It is also the contractor's responsibility to continuously monitor the lighting systems operation. aerial cable consisting of an assembly of three No. 4 XLP insulated power conductors with an ACSR messenger (grounding) wire. Provide the quantity of parallel cable assemblies necessary to maintain lighting circuits within the project area and lighting circuits outside of the project area that are fed from the existing lighting circuits within the project area.

Furnish Type 4 wood poles, 35' long. Luminaires shall be minimum 100 watt LED, full cutoff. Protect any cable that extends from grade to 10 feet above grade by a plastic cable guard.

The approximate location of the temporary wood poles is shown on the plans. The Contractor will be responsible for coordinating work around wood poles with any subcontractors as well as with the private utilities. Coordinating work around the temporary wood poles may require relocation of the wood poles. Relocation of wood poles as necessary for the construction activities shall be considered incidental to this bid item.

Temporary wood poles and lighting shall be removed once all permanent lights and signals are operational. If the wood poles are located in areas that are to have concrete sidewalk installed, an additional mobilization may be required to finish the concrete work, which shall be considered incidental to the contract.

#### **METHOD OF MEASUREMENT**

Maintain Street Lights and Support Structures for Temporary Traffic Signals will be measured as a lump sum, completed in place and accepted in accordance with the contract.

#### **BASIS OF PAYMENT**

Maintain Street Lights and Support Structures for Temporary Traffic Signals will be paid for at the contract lump sum price, which price shall be full compensation for furnishing, installing and removing wood poles, aerial cable, luminaires, arms, guy wires, maintaining lighting units, replacement of burned out lamps; replacement of knockdowns, and for furnishing and installing splice connectors, and for all labor, tools, equipment, and incidentals necessary to complete the work. This price shall also be full compensation for all materials and work association with changing connections of street lighting circuits to existing, temporary, and proposed permanent electric street light services as needed.

#### **BID ITEM 90091 – DOUBLE DUPLEX RECEPTACLE IN FLUSH BOX**

##### **DESCRIPTION**

This item consists of installation of a double duplex receptacle with an in-use weatherproof cover plate mounted in a 4" square box flush in the new reinforced concrete bench walls. Coordinate with the Engineer and electrical designer to determine the final locations of the receptacles.

##### **MATERIAL**

Provide all boxes, receptacles, cover plates, 3/4" PVC schedule 40 conduit and associated fittings in accordance with the materials listed on the drawings and referenced in the specification for installation of

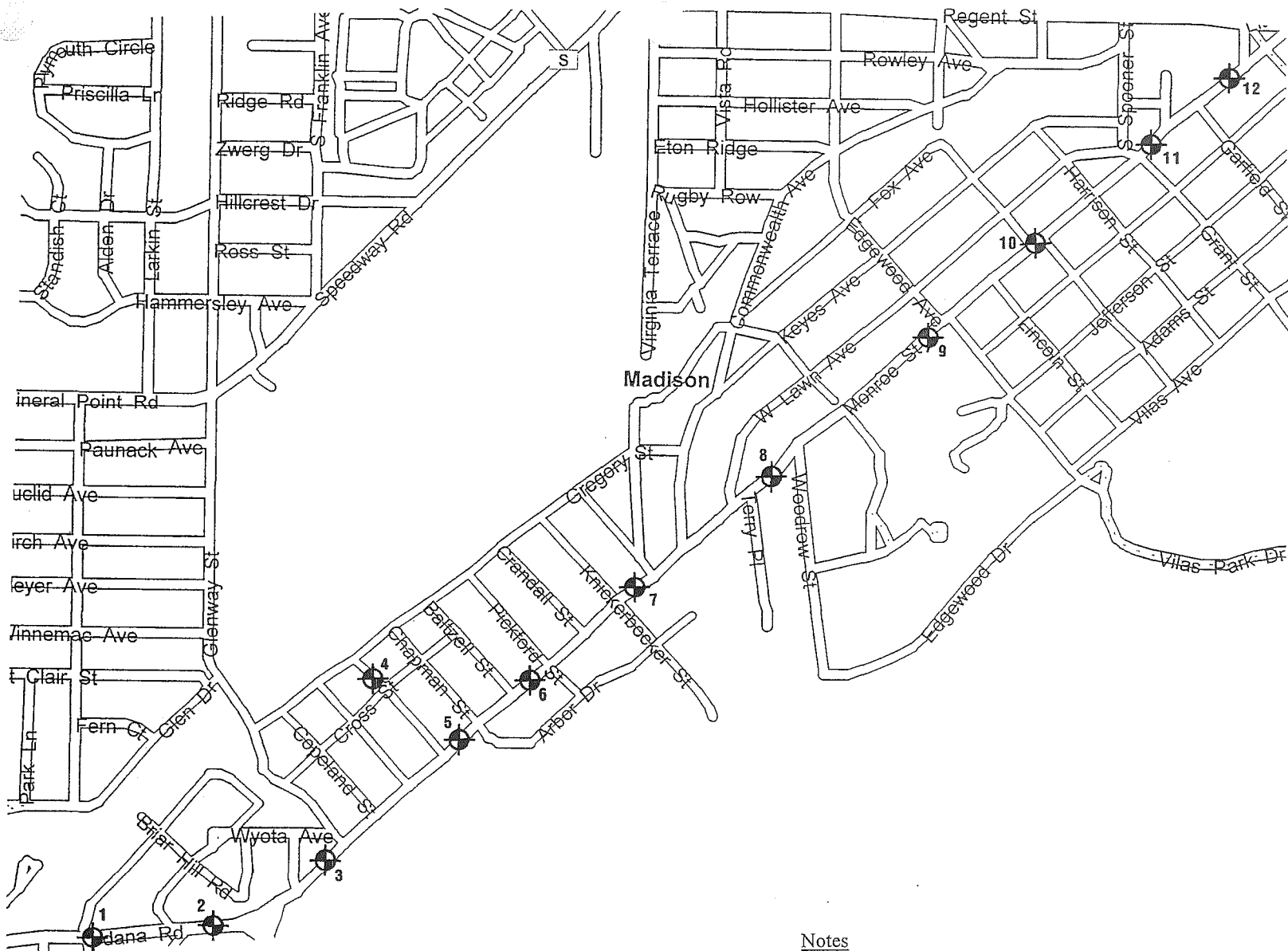
the double duplex weatherproof ground fault interrupter receptacles with in-use cover flush in the concrete wall. Provide all cable, wire nuts, fasteners, etc. to mount and wire all receptacles.

#### **METHOD OF MEASUREMENT**


Installation of Double Duplex Receptacle in Flush Box measured as a unit completed in place and fully operational.

#### **BASIS OF PAYMENT**

Installation of Double Duplex Receptacle in Flush Box, measured as provided above, will be paid for at the contract unit price each which will include all materials, labor, tools, equipment and incidentals necessary to complete this work in accordance with the contract.



**Legend**


 Denotes Boring Location (approximate)



**Notes**

1. Soil borings drilled by Badger State Drilling in January 2010

DWN: -	APP'D: MNS	Date: 1/10	C09028-44
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CGC, Inc.

**SOIL BORING LOCATION MAP**  
 Monroe Street Area  
 Madison, Wisconsin



# LOG OF TEST BORING

Project Monroe Street Area  
 Odana: 50'E of Seneca, 15'N of Centerline  
 Location Madison, Wisconsin

Boring No. 1  
 Surface Elevation (ft) \_\_\_\_\_  
 Job No. C09028-44  
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
					6" Asphalt Pavement/6" Base Course					
1	16	M	40*		FILL: Brown Sand with Silt, Clay and Gravel					
2	14	M	14		Medium Dense, Light Brown Silty Fine SAND (SM) (Possible Fill)					
3	14	M	52		Medium Dense to Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
4	16	M	18							
5	16	M	22							
					End Boring at 15 ft					
					Borehole backfilled with bentonite chips					
					*Sample 1 frozen					

WATER LEVEL OBSERVATIONS					GENERAL NOTES				
While Drilling	<u>6.0NW</u>	Upon Completion of Drilling	<u>NW</u>		Start	<u>1/11/10</u>	End	<u>1/11/10</u>	
Time After Drilling					Driller	<u>Badger</u>	Chief	<u>AP</u>	Rig <u>CME-55</u>
Depth to Water					Logger	<u>KD</u>	Editor	<u>ESF</u>	
Depth to Cave in					Drill Method	<u>2 1/4" HSA</u>			
The stratification lines represent the approximate boundary between soil types and the transition may be gradual.									




# LOG OF TEST BORING

Project Monroe Street Area  
Odana: 230'E of Huron Hill, 10'N of Centerline  
Location Madison, Wisconsin

Boring No. 2  
Surface Elevation (ft) \_\_\_\_\_  
Job No. C09028-44  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES					
No.	TYPE	Rec (in.)	Moist	N		Depth (ft)	qu (qa) (tsf)	W	LL	PL	LI
						 4" Asphalt Pavement/8" Base Course					
1		6	M	30*		FILL: Light Brown Sand, Some Gravel, Trace Silt					
2		6	M	4							
					5						
3		6	M	16		Medium Dense, Dark Brown Fine to Medium SAND, Some Silt and Gravel (SM) (Possible Fill)					
4		16	M	11		Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
					10						
5		18	M	18							
					15						
						End Boring at 15 ft					
						Borehole backfilled with bentonite chips					
						*Sample 1 partially frozen					
					20						

## WATER LEVEL OBSERVATIONS

While Drilling ✓ NW Upon Completion of Drilling NW  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

## GENERAL NOTES

Start 1/11/10 End 1/11/10  
Driller Badger Chief AP Rig CME-55  
Logger KD Editor ESF  
Drill Method 2 1/4" HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



# LOG OF TEST BORING

Project Monroe Street Area  
Monroe: 150'SW of Glenway, 13'SE of Centerline  
 Location Madison, Wisconsin

Boring No. 3  
 Surface Elevation (ft) \_\_\_\_\_  
 Job No. C09028-44  
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N		qu (qa) (tsf)	W	LL	PL	LI
					6" Asphalt Pavement/12" Base Course					
1		14	M	22*	FILL: Dark Brown/Gray Clay with Sand to 3 ft					
					Brown Sand with Clay to 5.5 ft					
2		16	M	11						
					Stiff, Brown Mottled Lean CLAY (CL)	(1.25)				
3		16	M	5						
					Stiff, Gray Mottled Lean CLAY, Trace Plant Fibers (CL)	(1.25)				
4		12	M	3						
					Medium stiff with no mottling at 14 ft	(0.75)				
5		16	M/W	5						
					End Boring at 15 ft					
					Borehole backfilled with bentonite chips					
					*Sample 1 partially frozen					

WATER LEVEL OBSERVATIONS					GENERAL NOTES				
While Drilling	<input checked="" type="checkbox"/> NW	Upon Completion of Drilling	<input checked="" type="checkbox"/> NW		Start	1/11/10	End	1/11/10	
Time After Drilling					Driller	Badger	Chief	AP	Rig CME-55
Depth to Water					Logger	KD	Editor	ESF	
Depth to Cave in					Drill Method	2 1/4" HSA			
The stratification lines represent the approximate boundary between soil types and the transition may be gradual.									



# LOG OF TEST BORING

Project Monroe Street Area  
Gilmore: 40'NW of Cross, 6'NE of Centerline  
Location Madison, Wisconsin

Boring No. 4  
Surface Elevation (ft) \_\_\_\_\_  
Job No. C09028-44  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Depth (ft)	Rec (in.)	Moist	N		qu (qa) (tsf)	W	LL	PL	LI
					2" Asphalt Pavement/6" Concrete Pavement					
1	18	M	28*		Stiff, Brown Lean CLAY (CL)	(1.25)				
2	12	M	7		Sandy at 4 ft	(1.25)				
					Loose, Brown Clayey SAND (SC)					
3	10	M	9							
					Loose to Very Dense, White Fine to Medium SAND, Some Gravel, Trace Silt (SP) (Weathered to Competent Sandstone Bedrock)					
4	4	M	62/6"		End Boring at 9 ft due to spoon refusal in competent sandstone bedrock					
					Borehole backfilled with bentonite chips					
					*Sample 1 frozen					

## WATER LEVEL OBSERVATIONS

While Drilling ∇ NW Upon Completion of Drilling NW  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

## GENERAL NOTES

Start 1/12/10 End 1/12/10  
Driller Badger Chief JR Rig CME-55  
Logger KD Editor ESF  
Drill Method 2 1/4" HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



## LOG OF TEST BORING

Project Monroe Street Area  
Monroe: 105'NE of Gilmore, 13'SE of Centerline  
Location Madison, Wisconsin

Boring No. 5  
Surface Elevation (ft)             
Job No. C09028-44  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
1	16	M	20*		4.5" Asphalt Pavement/8" Concrete Pavement/6" Base Course					
					FILL: Brown Clay with Sand					
2	18	M	5		Soft to Medium Stiff, Brown Lean CLAY (CL)					
				5		(0.5)				
3	12	M	32		Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
					Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM) (Weathered to Competent Limestone Bedrock)					
4	2	M	50/2"							
				10						
5	0	M	50/0"		End Boring at 13.5 ft due to spoon/auger refusal in limestone bedrock					
				15	Borehole backfilled with bentonite chips					
					*Sample 1 partially frozen					
				20						

### WATER LEVEL OBSERVATIONS

While Drilling ☒ NW Upon Completion of Drilling NW  
Time After Drilling                                              
Depth to Water                                             ☒  
Depth to Cave in                                            

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

### GENERAL NOTES

Start 1/11/10 End 1/11/10  
Driller Badger Chief AP Rig CME-55  
Logger KD Editor ESF  
Drill Method 2 1/4" HSA





## LOG OF TEST BORING

Project Monroe Street Area  
Monroe: 125' SW of Pickford, 12' SE of Centerline  
 Location Madison, Wisconsin

Boring No. 6  
 Surface Elevation (ft) \_\_\_\_\_  
 Job No. C09028-44  
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N		qu (qa) (tsf)	W	LL	PL	LI
					4" Asphalt Pavement/8" Concrete Pavement/6" Base Course					
1		12	M	21*	FILL: Brown Clay with Sand					
2		12	M	10	Medium Stiff, Dark Gray Lean CLAY (CL) (Possible Fill)	(0.75)				
3		0	M	4						
4		16	M	7	Loose, Gray Sandy SILT, Trace Organics (ML)					
5		18	M/W	7	Soft, Gray Silty CLAY (CL-ML) Occasional lenses/seams of silt	(0.3)				
					End Boring at 15 ft Borehole backfilled with bentonite chips *Sample 1 partially frozen					

### WATER LEVEL OBSERVATIONS

While Drilling ☒ NW Upon Completion of Drilling NW  
 Time After Drilling \_\_\_\_\_  
 Depth to Water \_\_\_\_\_  
 Depth to Cave in \_\_\_\_\_

### GENERAL NOTES

Start 1/11/10 End 1/11/10  
 Driller Badger Chief AP Rig CME-55  
 Logger KD Editor ESF  
 Drill Method 2 1/4" HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



## LOG OF TEST BORING

Project Monroe Street Area  
Location Monroe: 165'SW of Sprague, 12'SE of Centerline  
Madison, Wisconsin

Boring No. 7  
Surface Elevation (ft) \_\_\_\_\_  
Job No. C09028-44  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
					3" Asphalt Pavement/9" Concrete Pavement/4" Base Course					
1	12	M	21		FILL: Brown Sand with Silt, Clay and Gravel					
					Stiff, Dark Brown Lean CLAY (CL)					
2	14	M	9			(1.5)				
					Medium Stiff, Red-Brown Lean to Fat CLAY (CL) (Residual Limestone Bedrock)					
3	12	M	7			(0.9)				
					Medium Dense, Fine to Coarse GRAVEL, Some Sand and Silt (GM) (Weathered to Competent Limestone Bedrock)					
4	12	W	28							
					Very Dense at 14 ft					
5	5	W	50/5"		End Boring at 14 ft due to spoon refusal in competent limestone bedrock					
					Borehole backfilled with bentonite chips					

### WATER LEVEL OBSERVATIONS

While Drilling 8.0' Upon Completion of Drilling \_\_\_\_\_  
Time After Drilling \_\_\_\_\_ 10 min.  
Depth to Water \_\_\_\_\_ 11.0'  
Depth to Cave in \_\_\_\_\_

### GENERAL NOTES

Start 1/11/10 End 1/11/10  
Driller Badger Chief AP Rig CME-55  
Logger KD Editor ESF  
Drill Method 2 1/4" HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



# LOG OF TEST BORING

Project Monroe Street Area  
Monre: 125'SW of Woodrow, 13'SE of Centerline  
Location Madison, Wisconsin

Boring No. 8  
Surface Elevation (ft) \_\_\_\_\_  
Job No. C09028-44  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	qu (qa) (tsf)	W	LL	PL	LI
1		14	M	10*						
2		8	M	5		(1.0)				
3		12	M	8		(1.0)				
4		18	M	33						
5		12	M	65						

7" Asphalt Pavement/6" Concrete Pavement

Medium Stiff to Stiff, Brown Lean CLAY (CL)

Sandy at 6 ft

Loose to Very Dense, White Fine to Medium  
SAND, Some Gravel, Trace Silt (SP) (Weathered to  
Competent Sandstone Bedrock)

End Boring at 15 ft

Borehole backfilled with bentonite chips

\*Sample partially frozen

## WATER LEVEL OBSERVATIONS

While Drilling ✓ NW Upon Completion of Drilling NW  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

## GENERAL NOTES

Start 1/12/10 End 1/12/10  
Driller Badger Chief JR Rig CME-55  
Logger KD Editor ESF  
Drill Method 2 1/4" HSA

The stratification lines represent the approximate boundary between  
soil types and the transition may be gradual.



## LOG OF TEST BORING

Project Monroe Street Area  
Location Monroe: 125'SW of Edgewood, 5'SE of Centerline  
Madison, Wisconsin

Boring No. 9  
Surface Elevation (ft) \_\_\_\_\_  
Job No. C09028-44  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
					5.5" Asphalt Pavement/5.5" Concrete Pavement/5" Base Course					
1	10	M	25*		FILL: Brown Sand and Clay with Gravel to 3 ft					
					Brown Clay with Sand to 5.5 ft					
2	10	M	5			(1.4)				
					Loose, Brown Fine SAND, Little Silt, Trace Gravel (SP-SM) (Possible Fill)					
3	12	M	7							
					Dense, White and Light Brown Fine SAND, Little Gravel, Trace Silt (SP) (Weathered to Competent Sandstone Bedrock)					
4	14	M	35							
					Very Dense at 14 ft					
5	4	M	50/4"		End Boring at 15 ft					
					Borehole backfilled with bentonite chips					
					*Sample 1 frozen					

### WATER LEVEL OBSERVATIONS

### GENERAL NOTES

While Drilling ☒ NW Upon Completion of Drilling ☒ NW  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

Start 1/13/10 End 1/13/10  
Driller Badger Chief AP Rig CME-55  
Logger RM Editor ESF  
Drill Method 2 1/4" HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



# LOG OF TEST BORING

Project Monroe Street Area  
Monroe: 125'SW of Edgewood, 11'SE of Centerline  
Location Madison, Wisconsin

Boring No. 9X  
Surface Elevation (ft) \_\_\_\_\_  
Job No. C09028-44  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES					
No.	TYPE	Rec (in.)	Moist	N		Depth (ft)	qu (qa) (tsf)	W	LL	PL	LI
						6" Asphalt Pavement/8" Concrete Pavement/4" Base Course					
1		12	M	36*		FILL: Brown Clay with Sand					
						End Boring at 3.5 ft due to unknown obstruction. Moved 6' northwest and performed Boring 9					
						*Sample 1 frozen					
					5						
					10						
					15						
					20						

## WATER LEVEL OBSERVATIONS

While Drilling ∇ NW Upon Completion of Drilling NW  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

## GENERAL NOTES

Start 1/13/10 End 1/13/10  
Driller Badger Chief AP Rig CME-55  
Logger RM Editor ESF  
Drill Method 2 1/4" HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



# LOG OF TEST BORING

Project Monroe Street Area  
 Monroe: 5'SW of Van Buren, 15'NW of Centerline  
 Location Madison, Wisconsin

Boring No. 10  
 Surface Elevation (ft) \_\_\_\_\_  
 Job No. C09028-44  
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
					3" Asphalt Pavement/7" Concrete Pavement/6" Base Course					
1	14	M	15*		Stiff, Brown Mottled Lean CLAY (CL)	(1.25)				
2	14	M	7		Very Stiff at 4 ft	(2.25)				
3	16	M	18		Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles (SM)					
4	18	M	11							
5	16	M	69		Very Dense, Pinkish-White Fine SAND, Some Gravel, Trace Silt (SP) (Weathered Sandstone Bedrock)					
					End Boring at 15 ft					
					Borehole backfilled with bentonite chips					
					*Sample 1 partially frozen					

## WATER LEVEL OBSERVATIONS

While Drilling ∇ NW Upon Completion of Drilling NW  
 Time After Drilling \_\_\_\_\_  
 Depth to Water \_\_\_\_\_  
 Depth to Cave in \_\_\_\_\_

## GENERAL NOTES

Start 1/13/10 End 1/13/10  
 Driller Badger Chief AP Rig CME-55  
 Logger RM Editor ESF  
 Drill Method 2 1/4" HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.









# LOG OF TEST BORING

Project Monroe Street Area  
Monroe: 50'NE of Grant, 13'NW of Centerline  
 Location Madison, Wisconsin

Boring No. 11  
 Surface Elevation (ft)             
 Job No. C09028-44  
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES					
No.	Extra (in.)	Rec (in.)	Moist	N		Depth (ft)	qu (qa) (tsf)	W	LL	PL	LI
						 5" Asphalt Pavement/8" Concrete Pavement/6" Base Course					
1		AS	M	50*	0"	 FILL: Brown Clay with Sand					
						 Medium Dense, Brown Sandy SILT, Some Gravel (ML) (Possible Fill)					
2		10	M	16							
					5	Cobble at 7 ft					
3		6	M	100	4"	 Stiff, Brown Lean CLAY (CL)					
						 Dense, Gray/Brown Silty Fine SAND, Some Gravel (SM)					
4		14	M	37							
					10						
						 Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
5		16	M	30							
					15						
						End Boring at 15 ft					
						Borehole backfilled with bentonite chips					
						*Sample 1 frozen					
					20						

## WATER LEVEL OBSERVATIONS

While Drilling ☒ NW Upon Completion of Drilling NW  
 Time After Drilling                                              
 Depth to Water                                             ☒  
 Depth to Cave in                                            

## GENERAL NOTES

Start 1/13/10 End 1/13/10  
 Driller Badger Chief AP Rig CME-55  
 Logger RM Editor ESF  
 Drill Method 2 1/4" HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



## LOG OF TEST BORING

Project Monroe Street Area  
Location Monroe: 165'NE of Garfield, 3'SE of Centerline  
Madison, Wisconsin

Boring No. 12  
Surface Elevation (ft) \_\_\_\_\_  
Job No. C09028-44  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
					3" Asphalt Pavement/4" Concrete Pavement/4" Base Course					
1	4	M	100*	4"	FILL: Brown Sand and Gravel with Silt					
2	14	M	37		Dense, Brown Fine to Coarse SAND & GRAVEL, Some Silt (SM/GM)					
3	14	M	25		Medium Dense, Brown Silty Fine SAND, Some Gravel (SM)					
4	16	M	24		Medium Dense, Greenish-Brown Fine SAND, Little to Some Clay, Trace Silt (SP-SC/SC) (Residual Sandstone Bedrock)					
5	16	M	35		Dense and Greenish at 14 ft					
					End Boring at 15 ft					
					Borehole backfilled with bentonite chips					
					*Sample 1 frozen					

### WATER LEVEL OBSERVATIONS

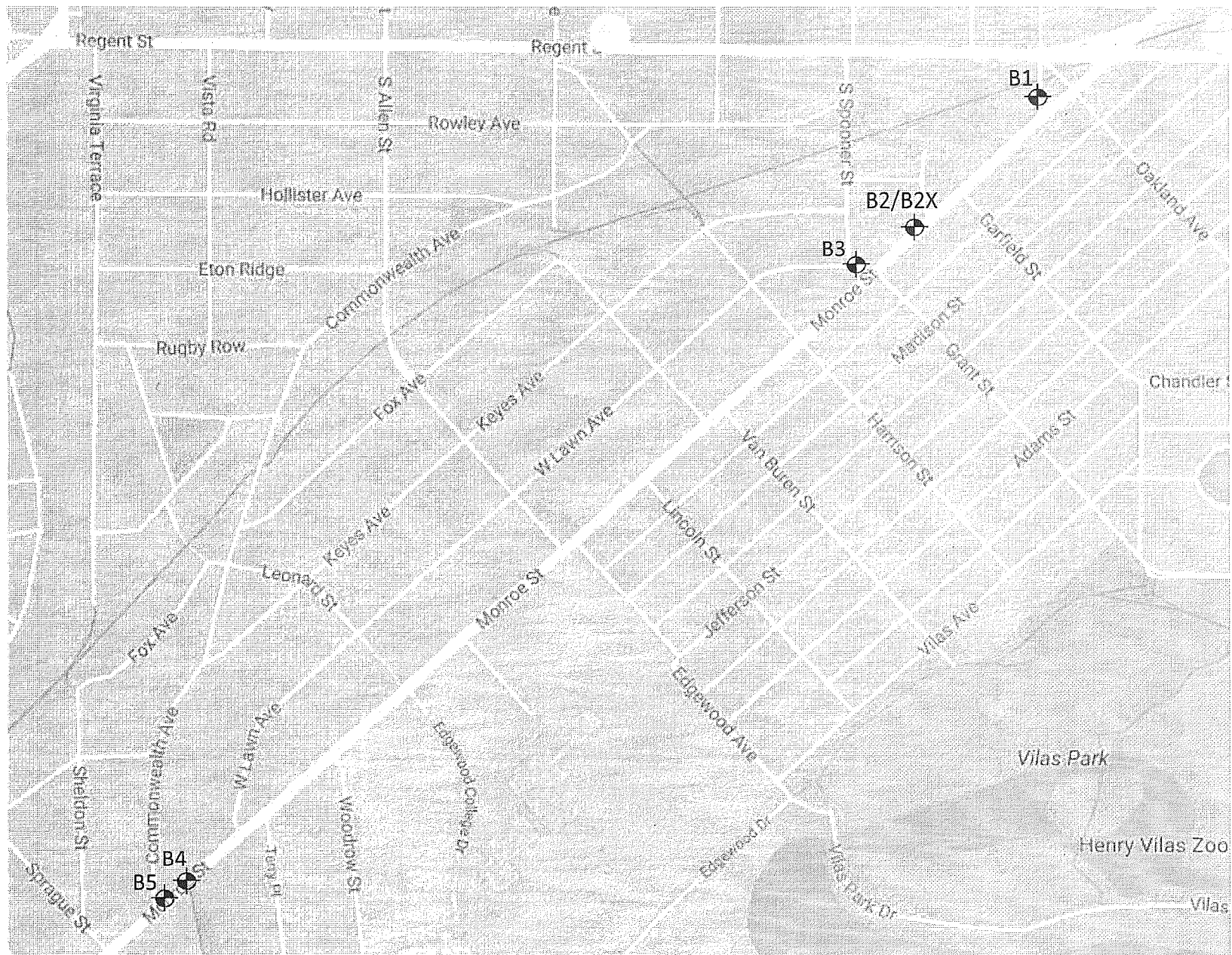
While Drilling ✓ NW Upon Completion of Drilling NW  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

### GENERAL NOTES


Start 1/13/10 End 1/13/10  
Driller Badger Chief AP Rig CME-55  
Logger RM Editor ESF  
Drill Method 2 1/4" HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.





**Legend**

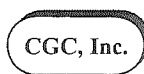
 Denotes Boring Location



**Notes**

1. Soil borings performed by Badger State Drilling in September 2017
2. Boring locations are approximate.

Scale: Reduced

<b>Date:</b> 7/2017		<b>Soil Boring Location Map</b> <b>Monroe Street Supplemental Borings</b> <b>Madison, WI</b>
<b>Job No.</b> 		



## LOG OF TEST BORING

Project Monroe Street Supplemental Borings  
Bore: 85'N of Monroe, 17'W of Centerline  
Location Madison, WI

Boring No. 1  
Surface Elevation (ft) 876±  
Job No. C17051-33  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
1AS	1	M	6		3.5 in. Asphalt Pavement/6 in. Concrete Pavement/5 in. Base Course					
					FILL: Very Loose to Loose, Brown Sand with Variable Silt, Gravel and Clay Contents					
2	18	M	3							
				5						
3	18	M	5		Medium Stiff to Stiff, Brown Lean Clay (CL)	(0.75)				
4A 4B	18	M	14			(1.0)				
				10	Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Trace Clay (SM)					
					Apparent Highly Weathered Sandstone BEDROCK					
5	18	M	18							
				15	End Boring at 15 ft					
					Borehole backfilled with bentonite chips and asphalt patch					
					(N 43°04.033', W 89°24.838')					
				20						

### WATER LEVEL OBSERVATIONS

While Drilling ☒ NW Upon Completion of Drilling \_\_\_\_\_  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

### GENERAL NOTES

Start 9/26/17 End 9/26/17  
Driller BSD Chief MC Rig CME-55  
Logger DC Editor ESF  
Drill Method 2.25" HSA; Autohammer



## LOG OF TEST BORING

Project Monroe Street Supplemental Borings  
Location Monroe: 80'SW of Stockton, 17'NW of Centerline  
Madison, WI

Boring No. 2  
Surface Elevation (ft) 897±  
Job No. C17051-33  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
					3.5 in. Asphalt Pavement/6 in. Concrete Pavement/4 in. Base Course					
1	4	M	15		FILL: Medium Dense, Brown Silty Sand with Gravel					
2	18	M	13							
				5	Rough Drilling Noted Beginning near 5.5'					
					End Boring at 6 ft Due to Auger Refusal on Unknown, Unmarked Obstruction					
					Borehole backfilled with soil cuttings and asphalt patch					
				10	Moved 2'SW and Reattempted (B2X)					
					(N 43°03.951', W 89°24.949)					
				15						
				20						

### WATER LEVEL OBSERVATIONS

While Drilling ☒ NW Upon Completion of Drilling \_\_\_\_\_  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

### GENERAL NOTES

Start 9/26/17 End 9/26/17  
Driller BSD Chief MC Rig CME-55  
Logger DC Editor ESF  
Drill Method 2.25" HSA; Autohammer



## LOG OF TEST BORING

Project Monroe Street Supplemental Borings  
Monroe: 82'SW of Stockton, 17'NW of Centerline  
Location Madison, WI

Boring No. 2X  
Surface Elevation (ft) 897±  
Job No. C17051-33  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	DEPTH (ft)	Rec (in.)	Moist	N		qu (qa) (tsf)	W	LL	PL	LI
					3.5 in. Asphalt Pavement/6 in. Concrete Pavement/4.5 in. Base Course					
					FILL: Brown Silty Sand with Gravel					
					Rough Drilling Noted Beginning Near 2.5'					
					End Boring at 3 ft Due to Auger Refusal on Unknown, Unmarked Obstruction					
	5				Borehole backfilled with soil cuttings and asphalt patch					
					Discontinued attempts to achieve targeted depth (15') with consent of the City					
					(N 43°03.951', W 89°24.949')					
	10									
	15									
	20									

### WATER LEVEL OBSERVATIONS

While Drilling ☒ NW Upon Completion of Drilling \_\_\_\_\_  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

### GENERAL NOTES

Start 9/26/17 End 9/26/17  
Driller BSD Chief MC Rig CME-55  
Logger DC Editor ESF  
Drill Method 2.25" HSA; Autohammer

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



# LOG OF TEST BORING

Project Monroe Street Supplemental Borings  
Monroe: 95"NE of Commonwealth, 14'NW of Centerline  
Location Madison, WI

Boring No. 4  
Surface Elevation (ft) 872±  
Job No. C17051-33  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	REMARKS	Rec (in.)	Moist	N	Depth (ft)	qu (qa) (tsf)	W	LL	PL	LI
					12.5 in. Asphalt Pavement					
1		0	M	4	Very Loose to Medium Dense, Brown Silty Fine SAND, Trace Gravel (SM - Possible Fill)					
2		4	M	2						
3		12	M	11						
4		18	M	15	Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
					Apparent Weathered to Competent BEDROCK					
5		0	M	50/0"	End of Boring at 13.5 ft due to Spoon Refusal on Apparent Bedrock					
					Borehole backfilled with bentonite chips and asphalt patch					
					(N 43°03.510', W 89°25.619')					

## WATER LEVEL OBSERVATIONS

While Drilling 13.3' Upon Completion of Drilling \_\_\_\_\_  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

## GENERAL NOTES

Start 9/26/17 End 9/26/17  
Driller BSD Chief MC Rig CME-55  
Logger DC Editor ESF  
Drill Method 2.25" HSA; Autohammer

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

# LOG OF TEST BORING

**CGC Inc.**

Project Monroe Street Supplemental Borings  
 Monroe: 50'NE of Commonwealth, 14'NW of Centerline  
 Location Madison, WI

Boring No. 5  
 Surface Elevation (ft) 870±  
 Job No. C17051-33  
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N		qu (qa) (tsf)	W	LL	PL	LI
					10 in. Asphalt Pavement					
1		0	M	7	Stiff, Brown to Gray (Mottled) Lean CLAY (CL - Possible Fill)					
2		4	M	7	Loose, Brown Fine to Medium SAND, Some Silt and Gravel, Trace Clay (SM - Possible Fill)					
3		12	M	8 5/6"	Dense to Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
4		18	M	33						
5		0	M	50 1/2"	Apparent Weathered to Competent BEDROCK					
					End Boring at 11.2 ft Due to Spoon Refusal on Apparent Bedrock					
					Borehole backfilled with bentonite chips and asphalt patch					
					(N 43°03.506', W 89°25.625')					

## WATER LEVEL OBSERVATIONS

While Drilling ✓ NW Upon Completion of Drilling \_\_\_\_\_  
 Time After Drilling \_\_\_\_\_  
 Depth to Water \_\_\_\_\_  
 Depth to Cave in \_\_\_\_\_

## GENERAL NOTES

Start 9/26/17 End 9/26/17  
 Driller BSD Chief MC Rig CME-55  
 Logger DC Editor ESF  
 Drill Method 2.25" HSA; Autohammer

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



Department of Public Works  
**Engineering Division**  
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**Assistant City Engineer**

Gregory T. Fries, P.E.  
Kathleen M. Cryan

**Principal Engineer 2**

Christopher J. Petykowski, P.E.  
John S. Fahrney, P.E.

**Principal Engineer 1**

Christina M. Bachmann, P.E.

**Facilities & Sustainability**

Jeanne E. Hoffman, Manager

**Mapping Section Manager**

Eric T. Pederson, P.S.

**Financial Manager**

Steven B. Danner-Rivers

December 7, 2017

NOTICE OF ADDENDUM  
ADDENDUM NO. 1  
CONTRACT NO. 7974

MONROE STREET ASSESSEMENT DISTRICT - 2018

Revise and amend the contract document(s) for the above project as stated in this addendum, otherwise, the original document shall remain in effect.

**SPECIAL PROVISIONS:**

INSERT THE FOLLOWING:

SECTION 702.4.1 MATERIALS - MECHANICAL JOINT FITTINGS

(1) Mechanical joint fittings are to conform to the requirements of American National Standard for Ductile Iron Compact Fittings, 3-inch through 64-inch for Water (ANSI/AWWA C153/A21.53-11 - latest revision).

SECTION 704.3.5 FURNISH & INSTALL PIPE & FITTINGS - BASIS OF PAYMENT

(3) Additional fittings, where authorized, will be paid or credited as follows:

4-Inch Fitting: \$431.25 Each  
6-Inch Fitting: \$528.75 Each  
8-Inch Fitting: \$712.50 Each  
10-Inch Fitting: \$806.25 Each  
12-Inch Fitting: \$900.00 Each

BID ITEM 70001 – FURNISH AND INSTALL 4-INCH PIPE & FITTINGS

BID ITEM 70002 – FURNISH AND INSTALL 6-INCH PIPE & FITTINGS

BID ITEM 70003 – FURNISH AND INSTALL 8-INCH PIPE & FITTINGS

BID ITEM 70004 – FURNISH AND INSTALL 10-INCH PIPE & FITTINGS

BID ITEM 70005 – FURNISH AND INSTALL 12-INCH PIPE & FITTINGS

The base-bid for these items shall be based on the requirements of the Standard Specifications and these special provisions. Contract award determination will include this value for these items.

Submit bid item alternate prices at the time of the bid – see Alternate 1 located in Section B: Proposal of this project advertisement on [www.bidexpress.com](http://www.bidexpress.com) (Bid Items ALT 70001 – ALT 70005 posted under Alternate 1). **The submitted alternate prices will not be considered when determining the award of the Contract;** however, upon successful award of the Contract, Madison Water Utility shall have the right to replace the



entire base bid quantity of Bid Items 70001 – 70005 with Alternate 1 Bid Items ALT 70001 – ALT 70005, or any combination thereof, at the alternate unit price rates submitted during the bid. Any difference in price will be adjusted through standard City of Madison Public Works change order procedures, based on the actual unit quantity installed.

## **PROPOSAL:**

### **ADD THE FOLLOWING TO SECTION B: PROPOSAL & PROPOSAL PAGE (NOTES)**

#### Section B: Proposal Page (Notes)

NOTE: The bidder must completely fill in the base bid and the five Bid Item alternates. The Bid Item alternates consider alternate water main fittings associated with Bid Items 70001 through 70005 (Furnish & Install Pipe & Fittings, 4-inch, 6-inch, 8-inch, 10-inch and 12-inch). See the Contract Special Provisions and the following Section B: Alternate Bid Items for more detailed information. The contract shall be awarded based on the base bid only (alternate items will not be included when determining award) . Upon successful award of the contract based on the base bid, the City shall have the right to proceed with replacing any or all of the awarded Bid Items 70001 through 70005 with Alternate Bid Items ALT 70001 through ALT 70005 at the submitted Alternate Bid Item unit prices. Any difference in value will be adjusted after award through standard City of Madison Public Works contract change order procedures.

#### **SECTION B: ALTERNATES**

##### **NOTES:**

**Bid Item Alternates – BID ITEMS ALT 70001 – ALT 70005 FURNISH AND INSTALL (SIZE) PIPE & FITTINGS:**

Provide and install the lineal-foot unit price to furnish and install 4-inch, 6-inch, 8-inch, 10-inch or 12-inch diameter water pipe & fittings in accordance with the requirements of the Standard Specifications, with no modifications. These items are listed on the proposal as ALT 70001 – ALT 70005. Upon successful award of the contract, the City shall have the right to replace the entire base bid quantity of Bid Items 70001, 70002, 70003, 70004, or 70005 with Alternate Bid Items ALT 70001, ALT 70002, ALT 70003, ALT 70004, or ALT 70005, or any combination thereof, at the unit price rate submitted herein. Any difference in price will be adjusted through standard City of Madison Public Works change order procedures, based on the actual unit quantity installed.

##### **ITEMS:**

Action	Bid Item	Description	Quantity
INSERT	ALT 70001	FURNISH AND INSTALL 4-INCH PIPE & FITTINGS	85 L.F.
INSERT	ALT 70002	FURNISH AND INSTALL 6-INCH PIPE & FITTINGS	460 L.F.
INSERT	ALT 70003	FURNISH AND INSTALL 8-INCH PIPE & FITTINGS	1260 L.F.
INSERT	ALT 70004	FURNISH AND INSTALL 10-INCH PIPE & FITTINGS	240 L.F.
INSERT	ALT 70005	FURNISH AND INSTALL 12-INCH PIPE & FITTINGS	9180 L.F.

**INFORMATIONAL ITEMS ONLY:**

Preliminary, Not for Construction plans of the proposed alignment of the MG&E Electric joint trench work and the proposed plan for MG&E Gas are included for reference only. These plans are preliminary and are subject change. Contractors shall direct any questions to the contacts listed in the special provisions. Preliminary MG&E plans show proposed City Utilities that are inaccurate and out-of-date. Refer to the City approved plans for all proposed City utility information.

For clarification purposes, sanitary sewer plans, showing only the existing and proposed sanitary sewer lines are posted for reference only. These plans shall not be considered part of the construction plan set, and these plans WILL NOT be updated with any further revisions to the sanitary sewer plans that are included with plan set for this project.

Sincerely,

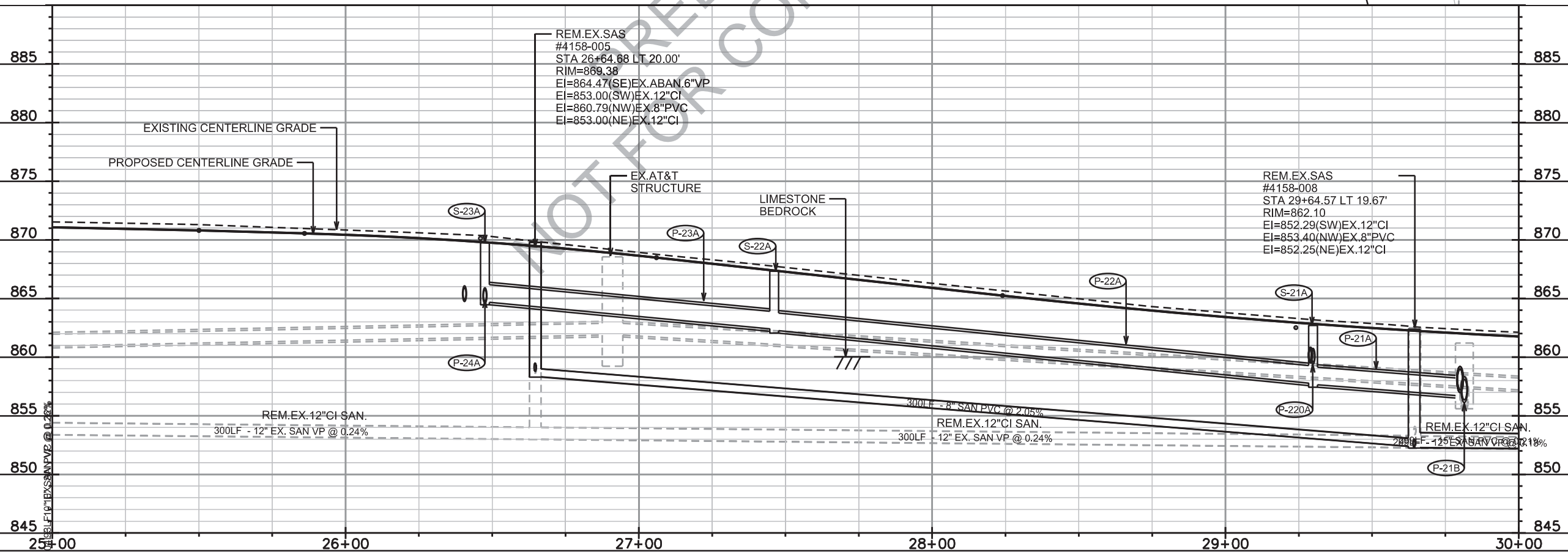
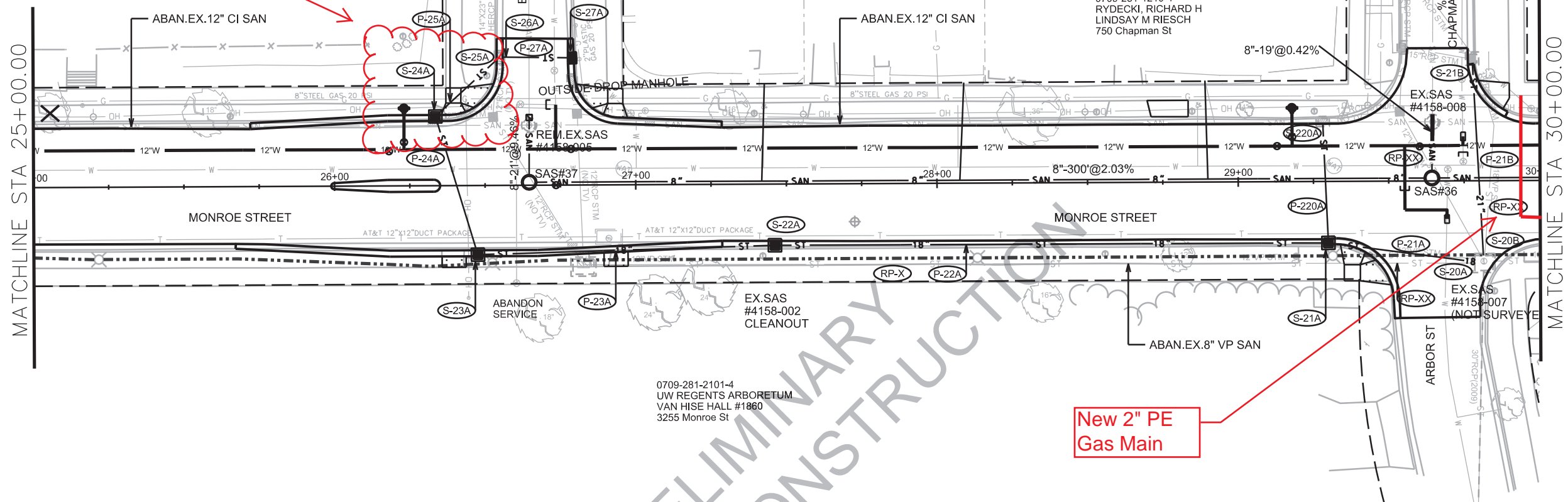
A handwritten signature in black ink, appearing to read "Robert Phillips", written in a cursive style.

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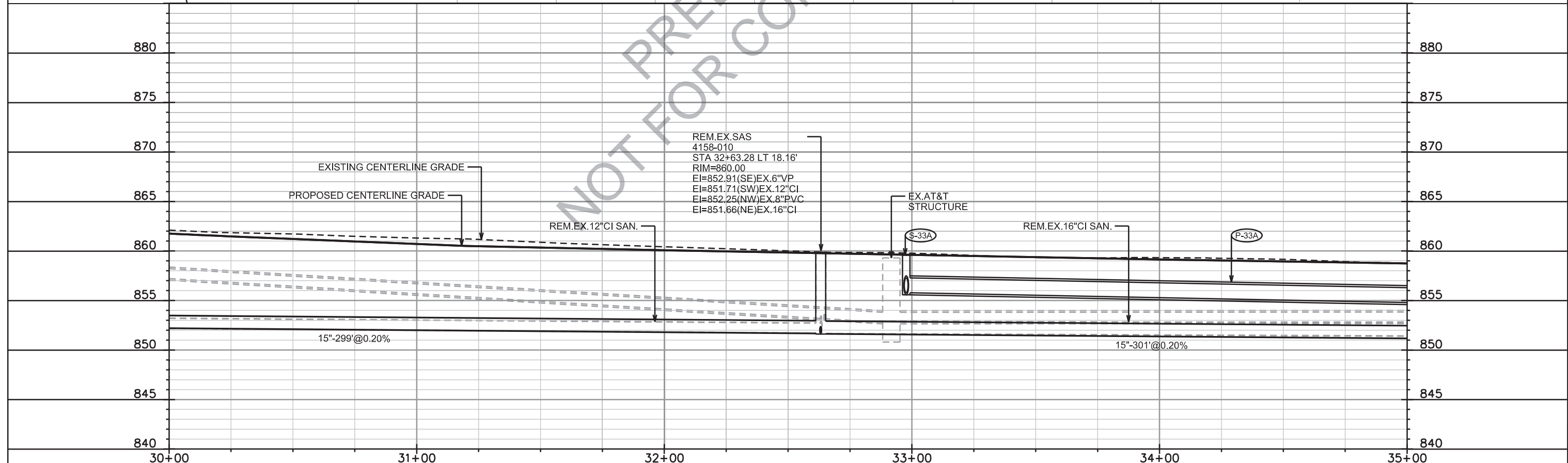
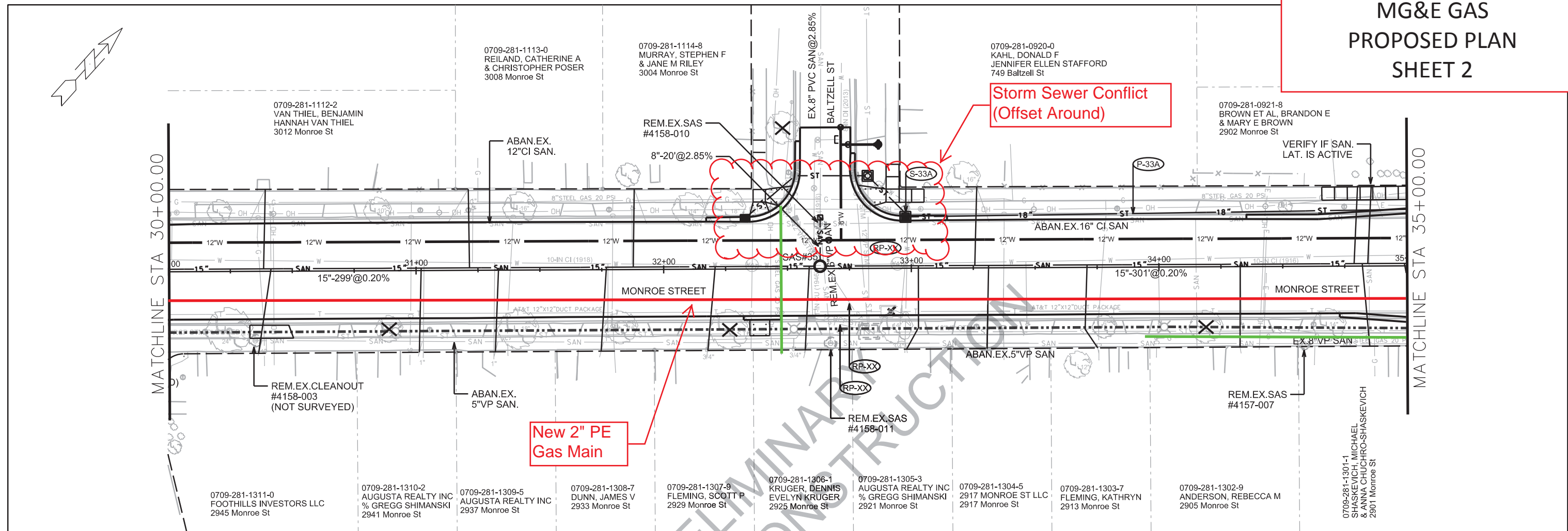
Robert F. Phillips, P.E.  
City Engineer

RFP:JMW

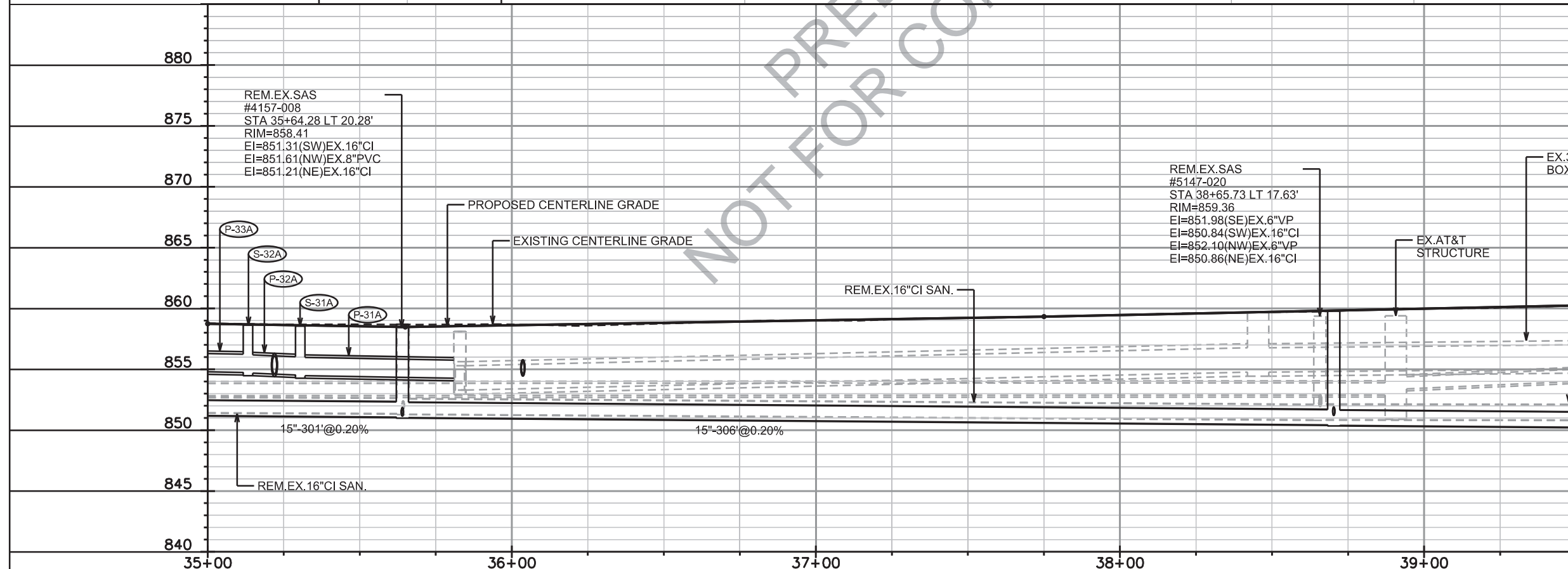
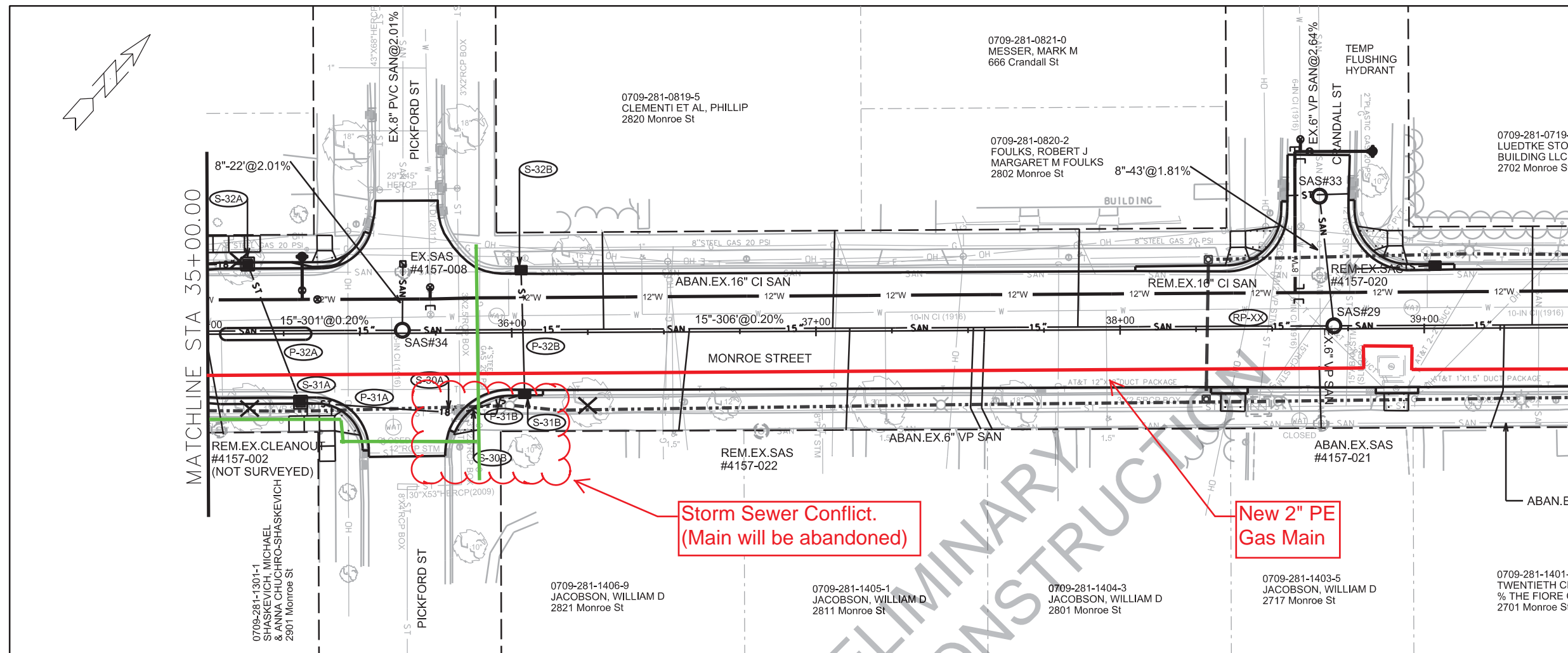
MG&E GAS  
PROPOSED PLAN  
SHEET 1



MG&E GAS  
PROPOSED PLAN  
SHEET 2



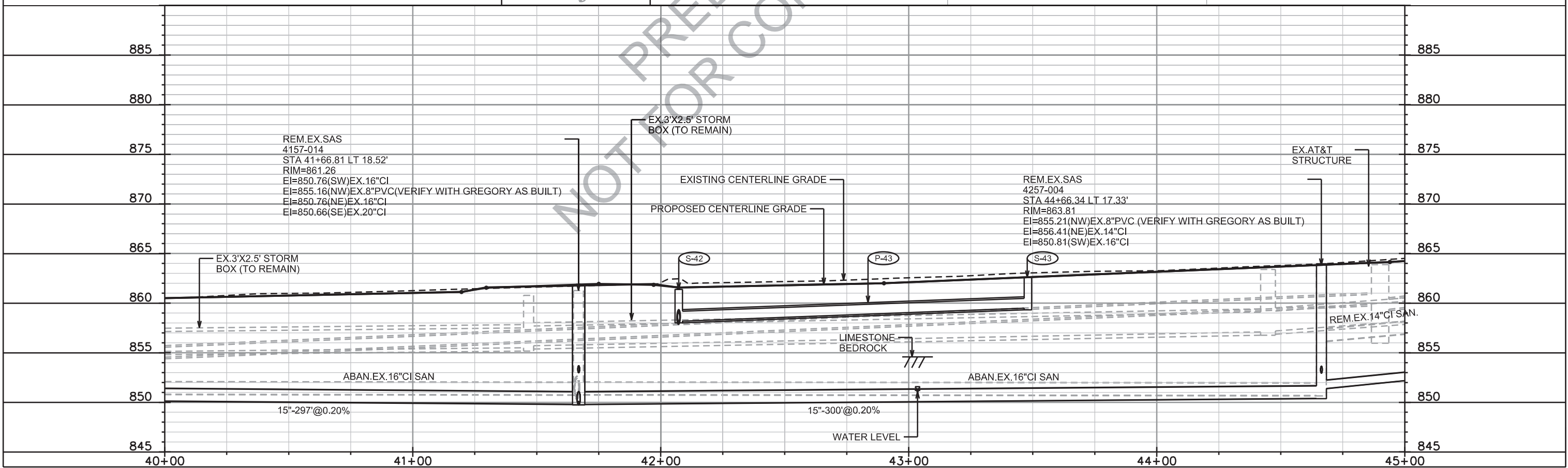
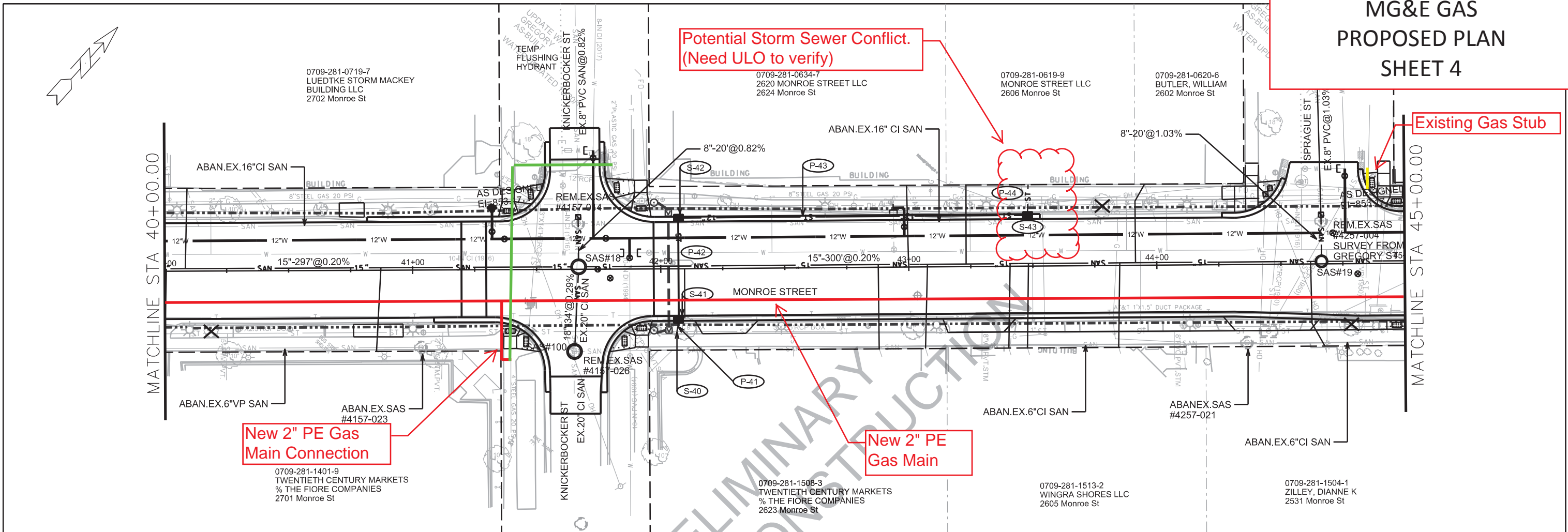
MG&E GAS  
PROPOSED PLAN  
SHEET 3



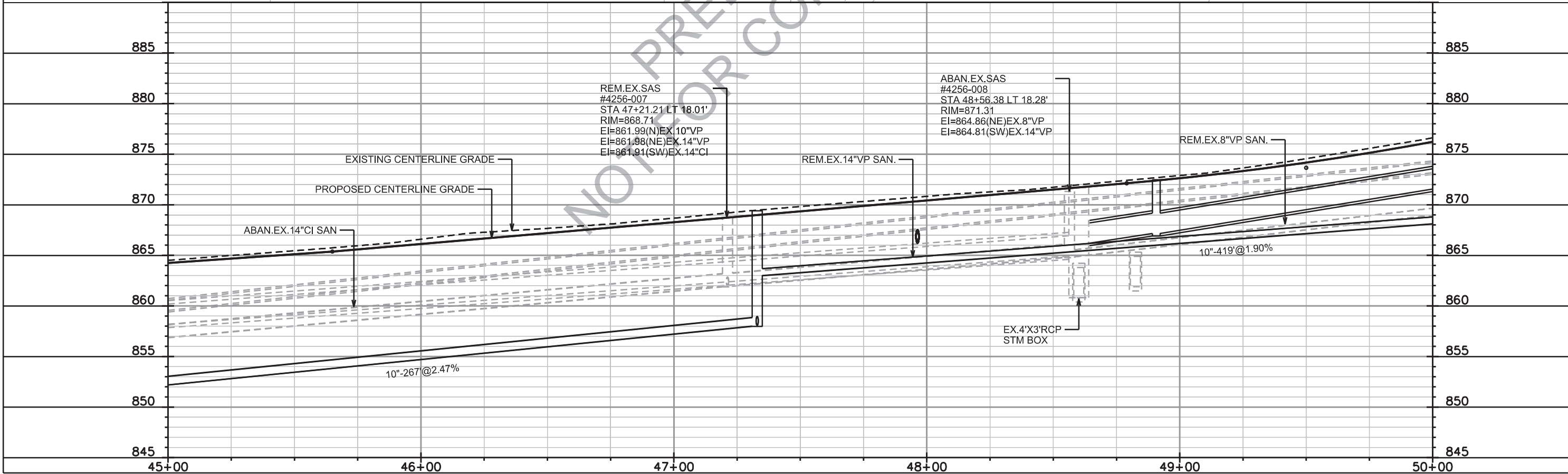
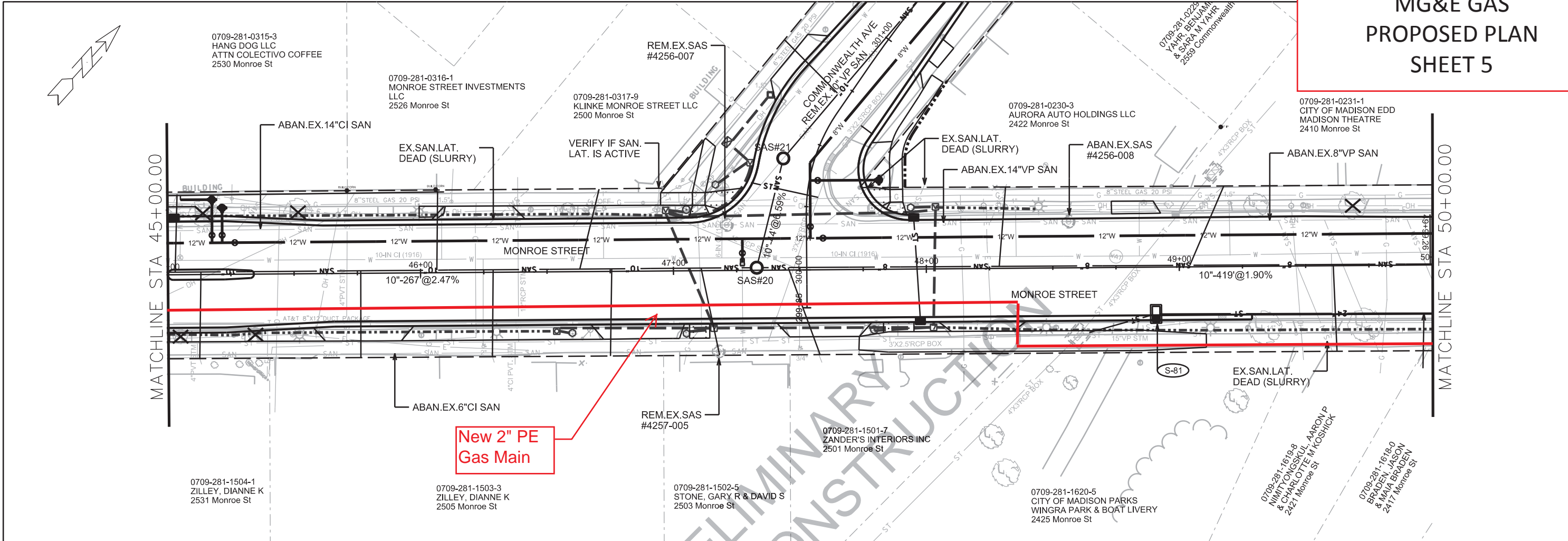


MG&E GAS  
PROPOSED PLAN  
SHEET 4

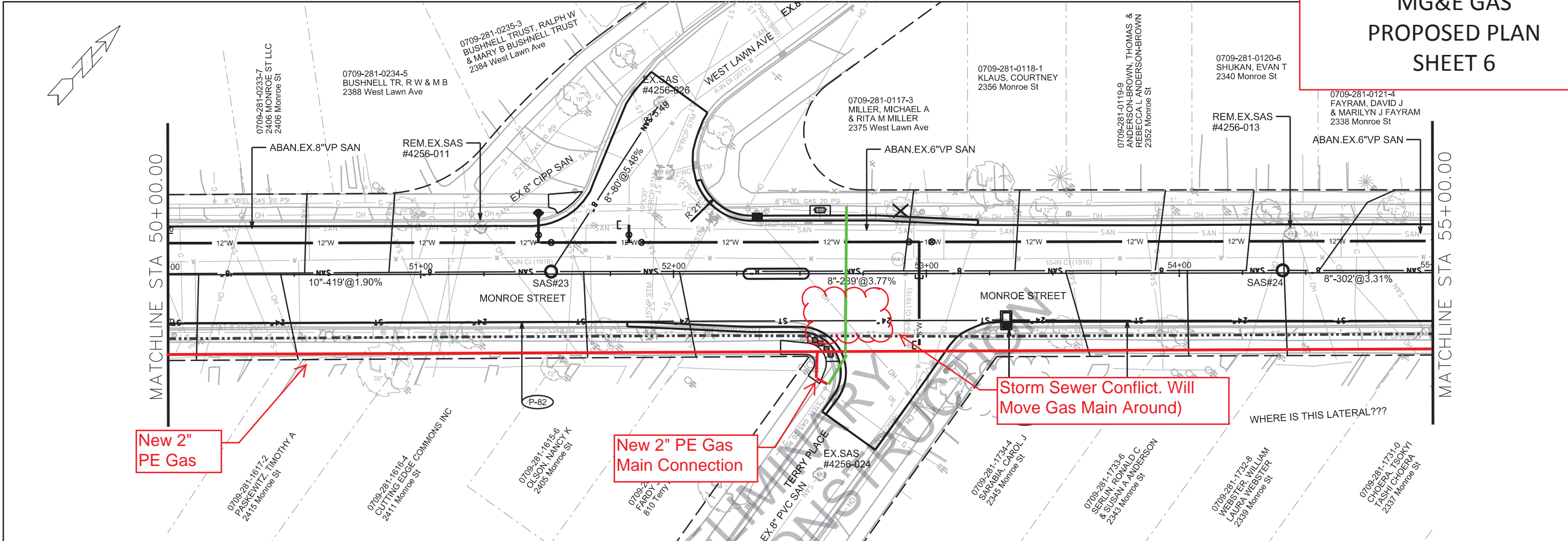
Existing Gas Stub



MG&E GAS  
PROPOSED PLAN  
SHEET 5



MG&E GAS  
PROPOSED PLAN  
SHEET 6

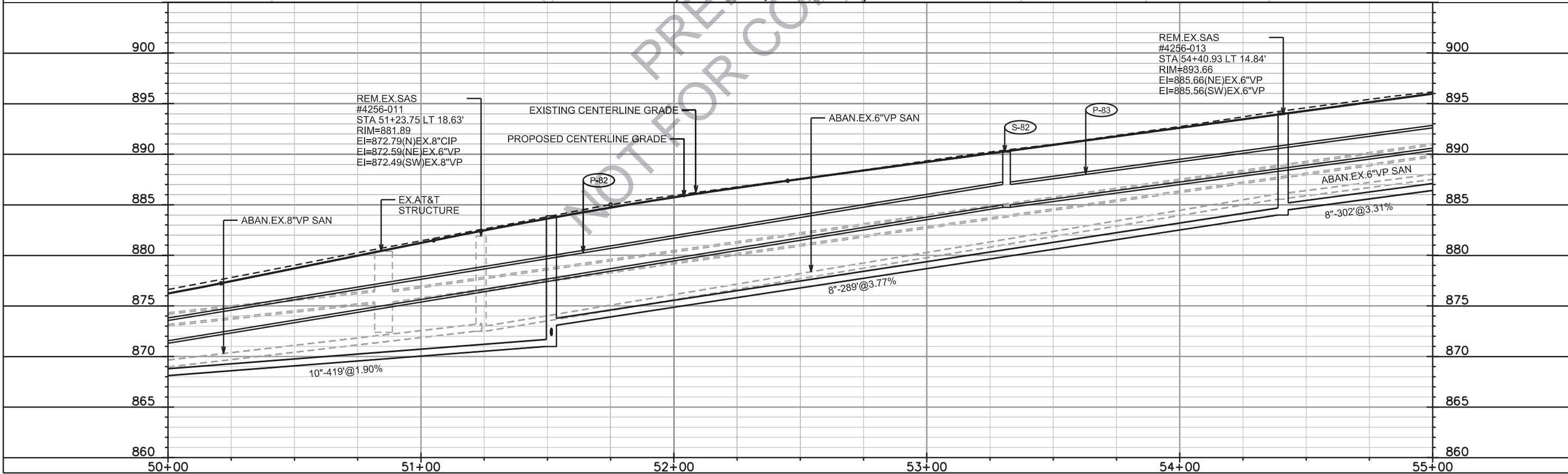


New 2" PE Gas

New 2" PE Gas Main Connection

Storm Sewer Conflict. Will Move Gas Main Around)

WHERE IS THIS LATERAL???

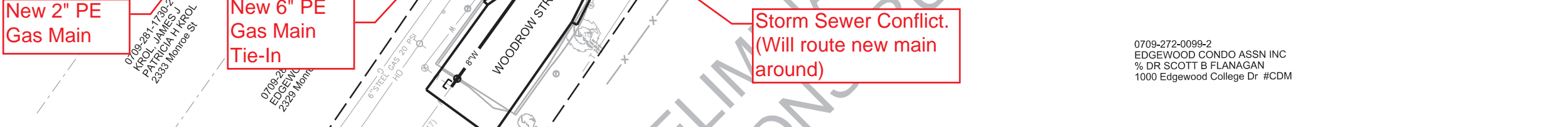
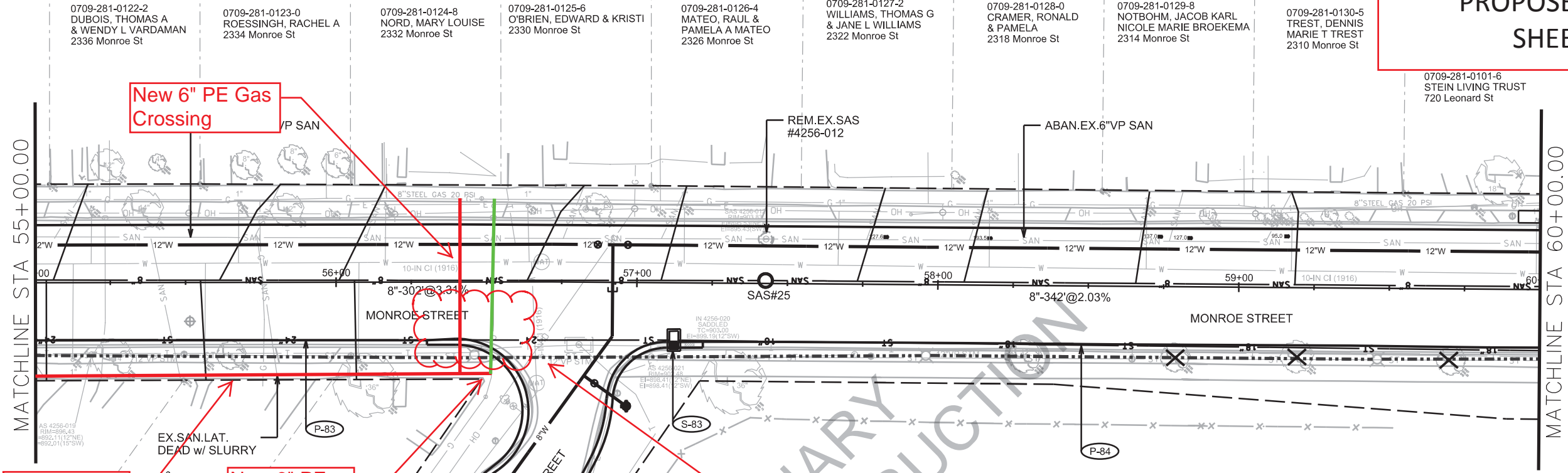


REM.EX.SAS #4256-011 STA 51+23.75 LT 18.63' RIM=881.89 EI=872.79(N)EX.8"CIP EI=872.59(N)EX.6"VP EI=872.49(SW)EX.8"VP

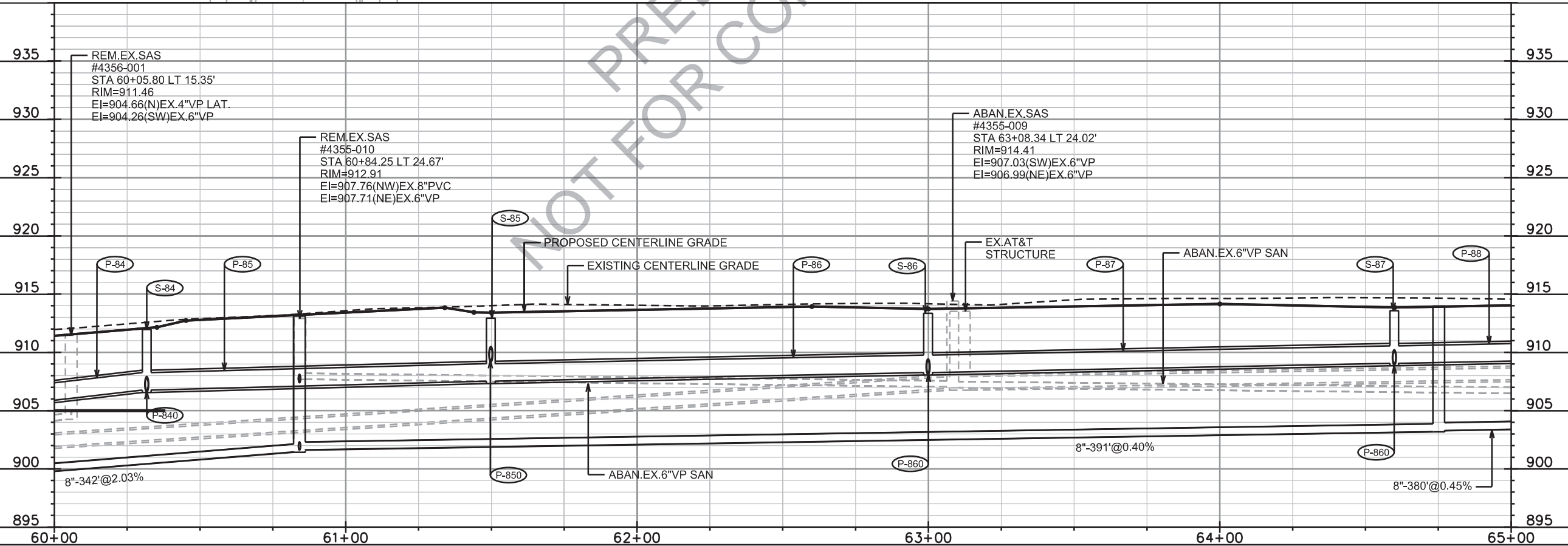
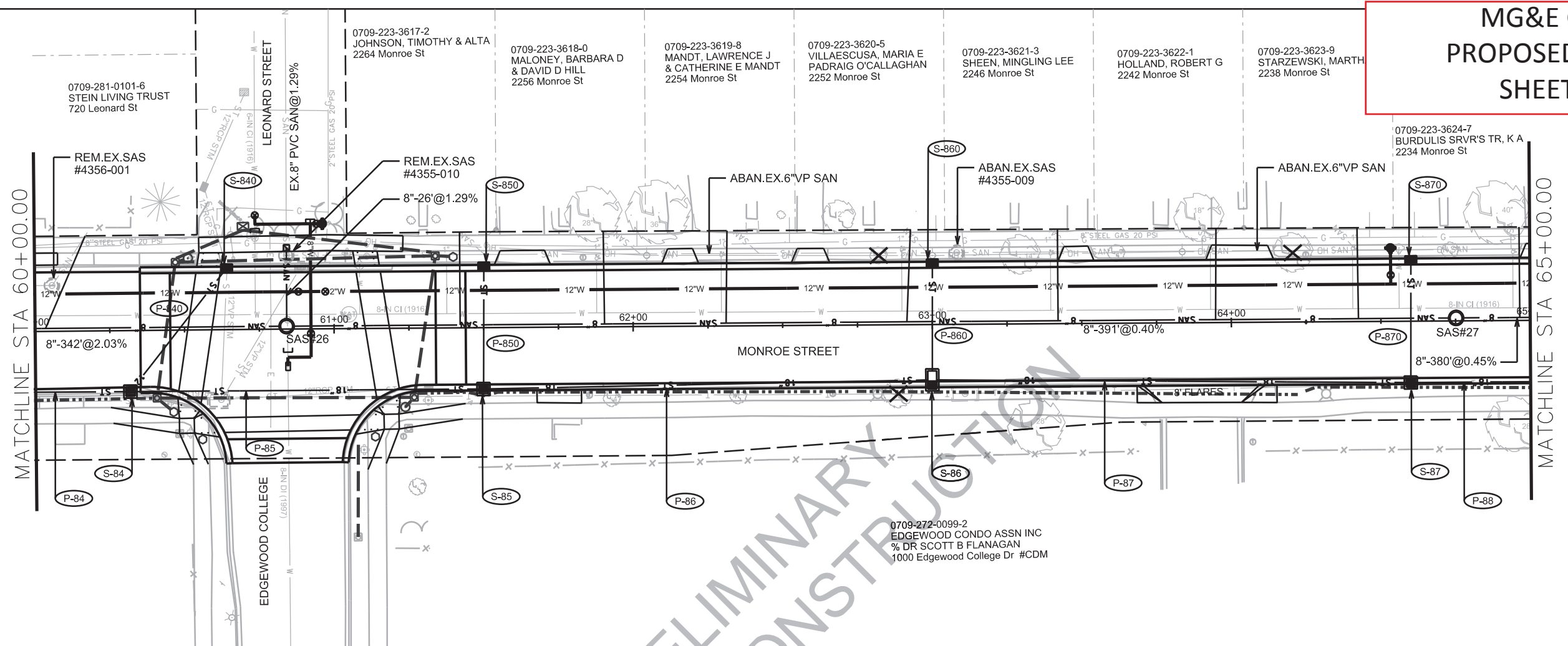
REM.EX.SAS #4256-013 STA 54+40.93 LT 14.84' RIM=893.66 EI=885.66(N)EX.6"VP EI=885.56(SW)EX.6"VP



MG&E GAS  
PROPOSED PLAN  
SHEET 7



MG&E GAS  
PROPOSED PLAN  
SHEET 8

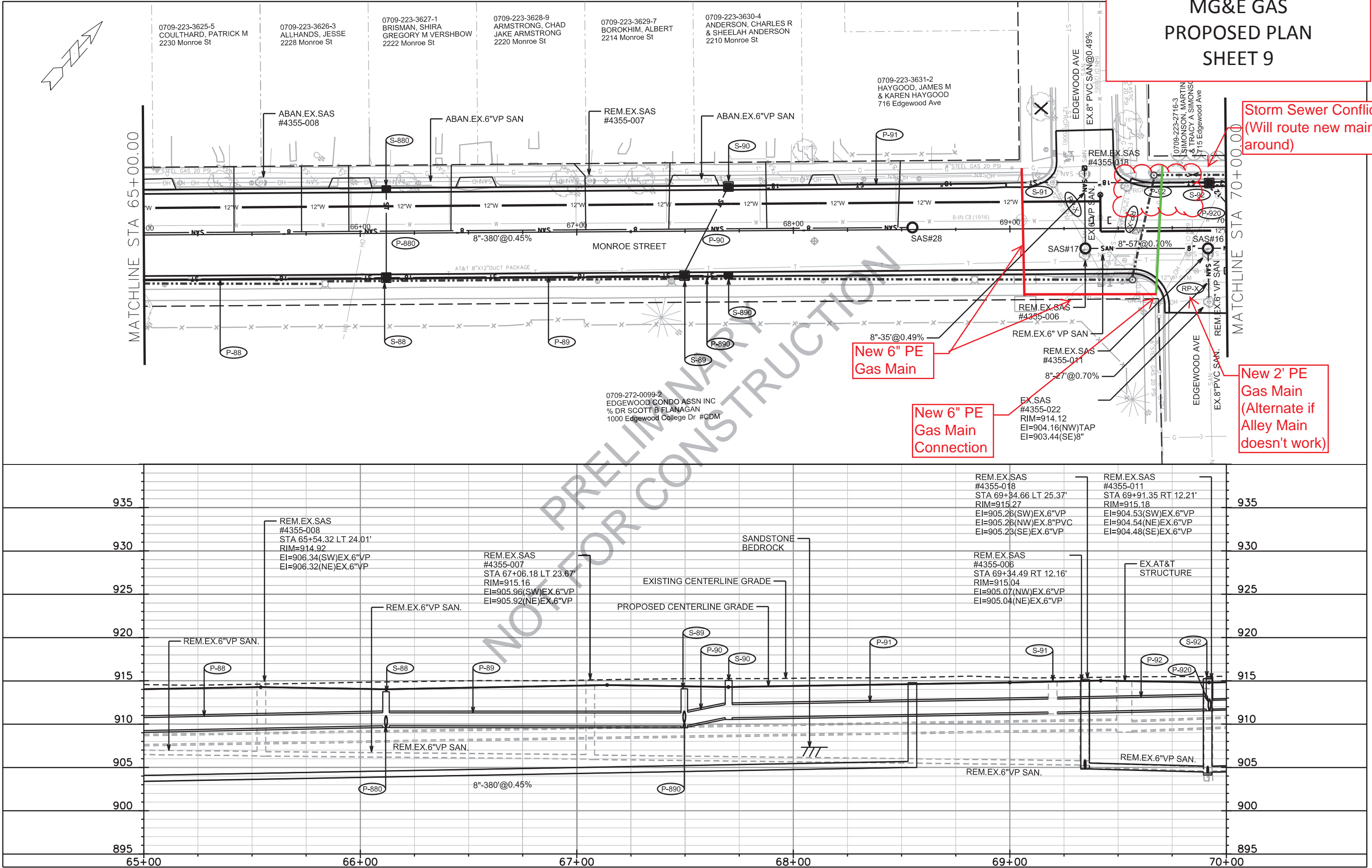


PLOT SCALE: \_\_\_\_\_

PLOT NAME: \_\_\_\_\_

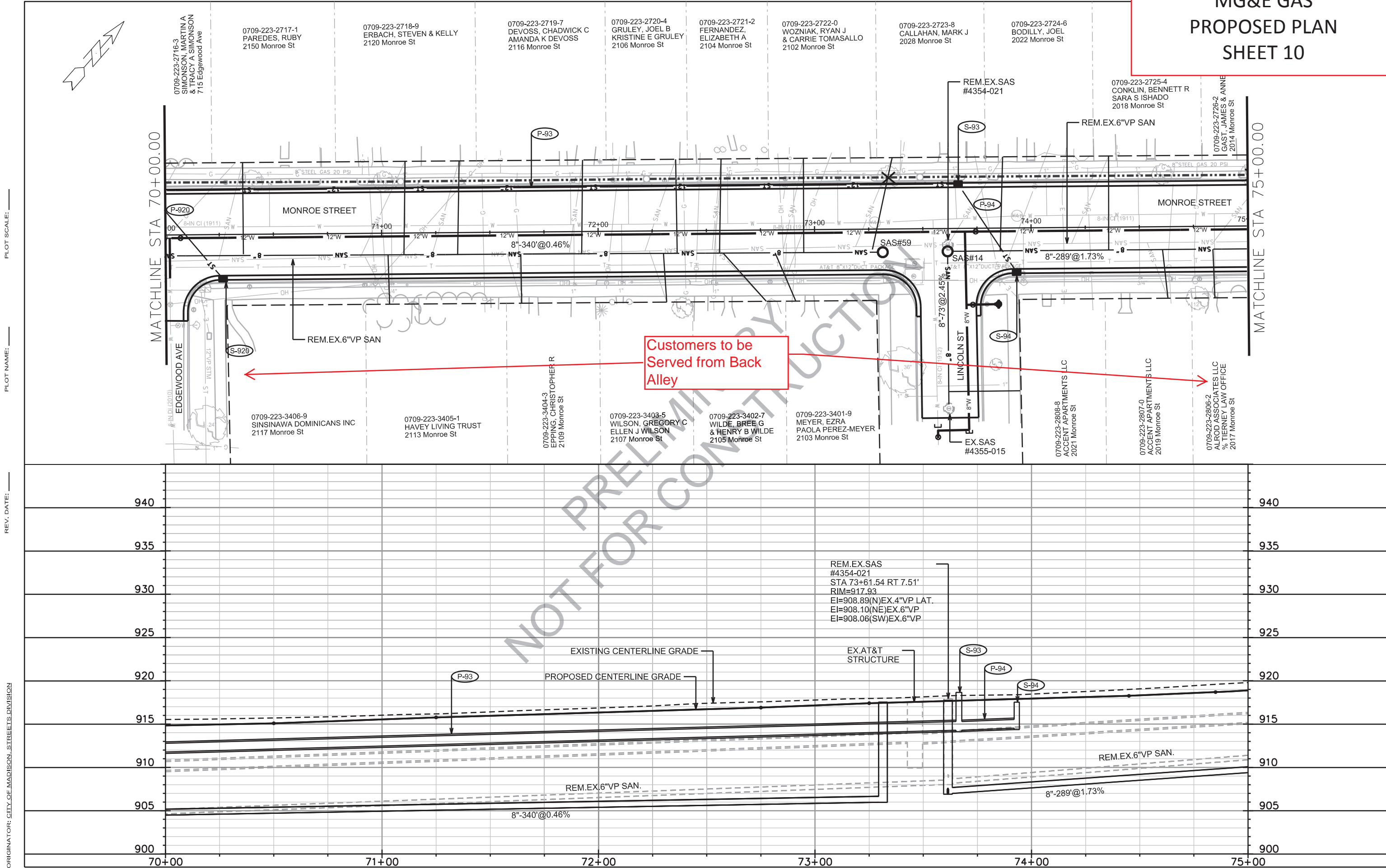
REV. DATE: \_\_\_\_\_

ORIGINATOR: CITY OF MADISON, STREETS DIVISION





MG&E GAS  
PROPOSED PLAN  
SHEET 10



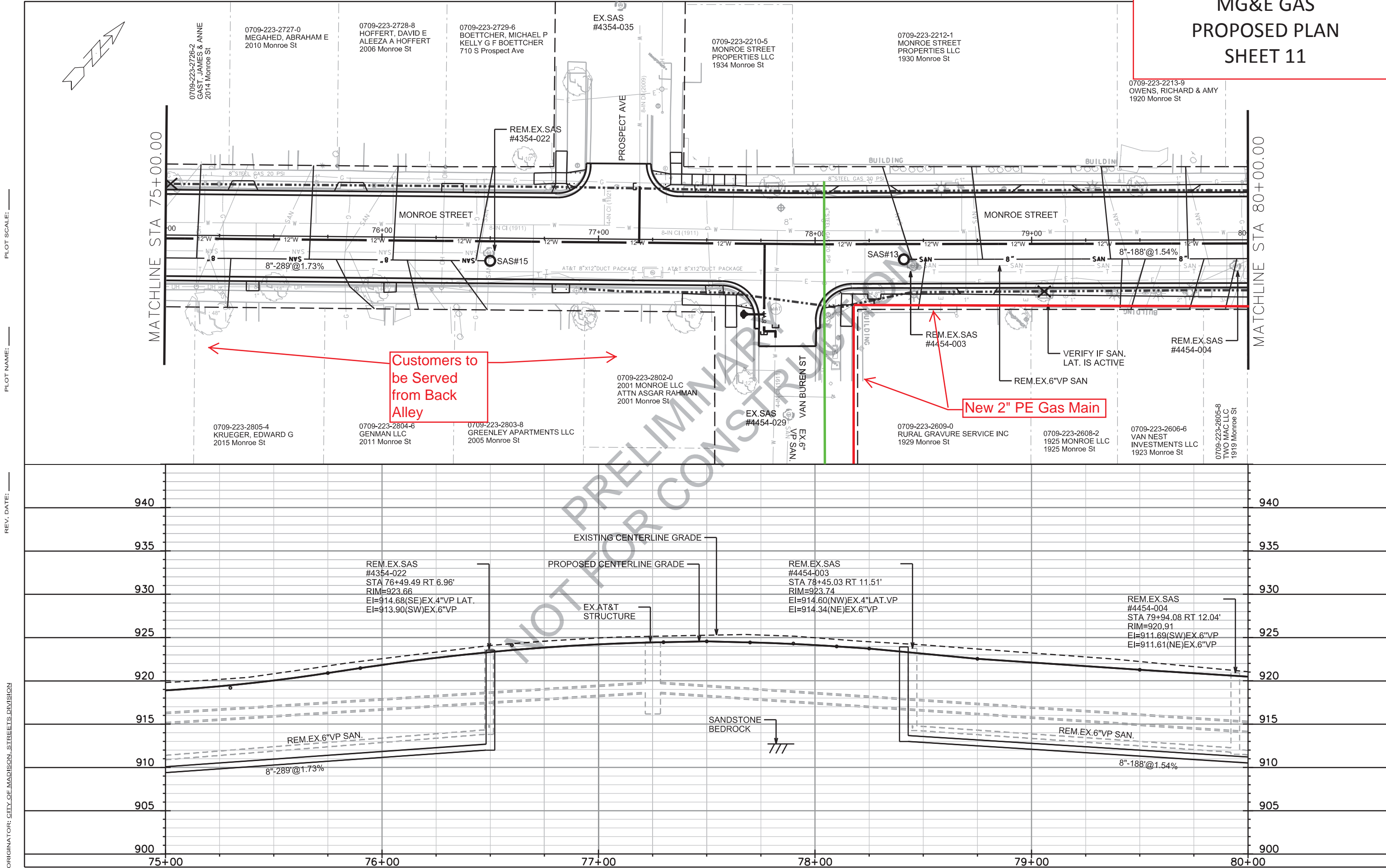
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PLOT NAME: \_\_\_\_\_

REV. DATE: \_\_\_\_\_

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

MG&E GAS  
PROPOSED PLAN  
SHEET 11



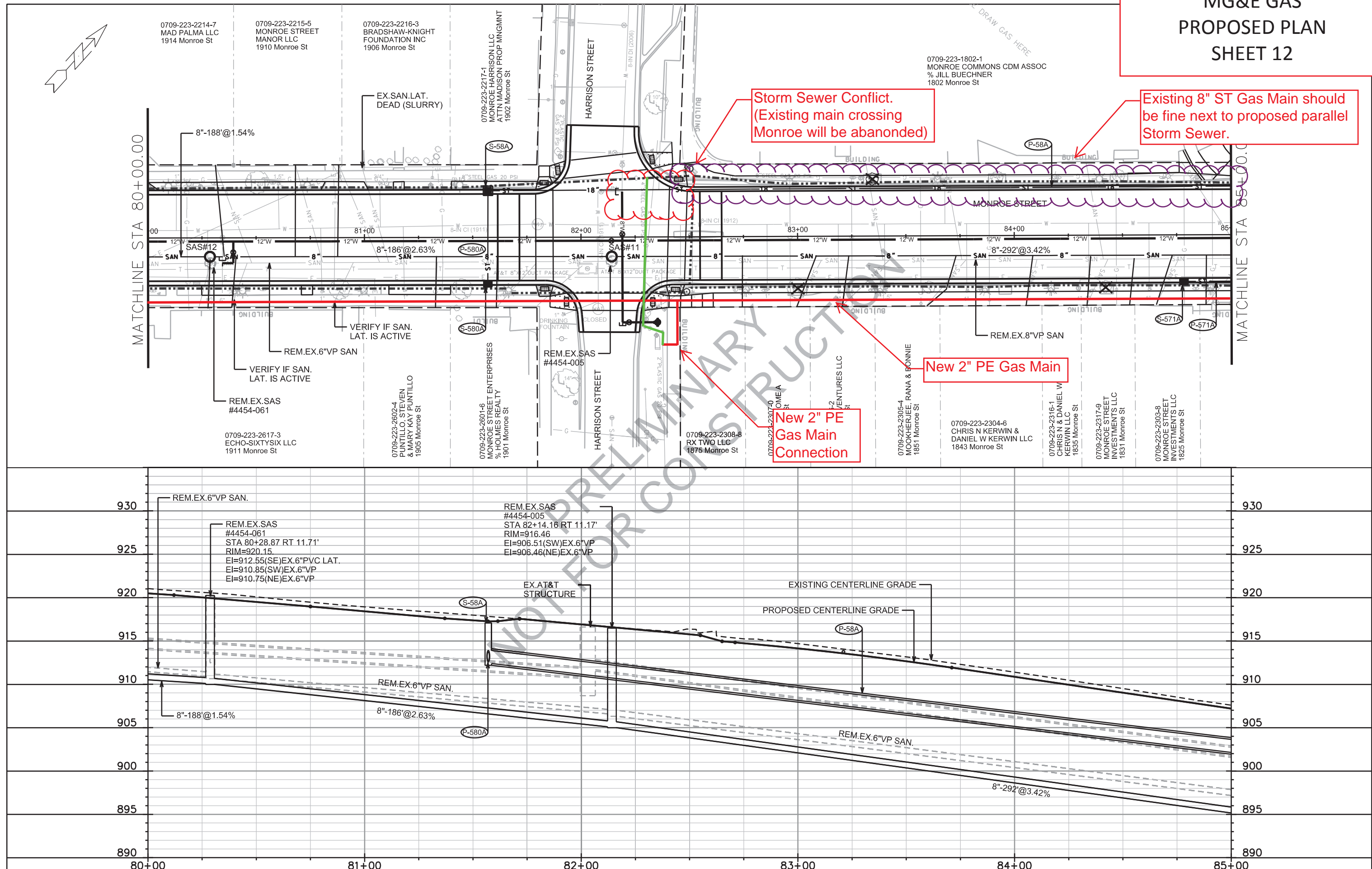
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PLOT NAME: \_\_\_\_\_

REV. DATE: \_\_\_\_\_

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

MG&E GAS  
PROPOSED PLAN  
SHEET 12





MG&E GAS  
PROPOSED PLAN  
SHEET 13

New 8" ST  
Gas Main

Existing Gas  
Main Stub

New 2" PE  
Gas Main

Storm Sewer Conflict.  
(Offset 8" ST and route  
2" PE around)

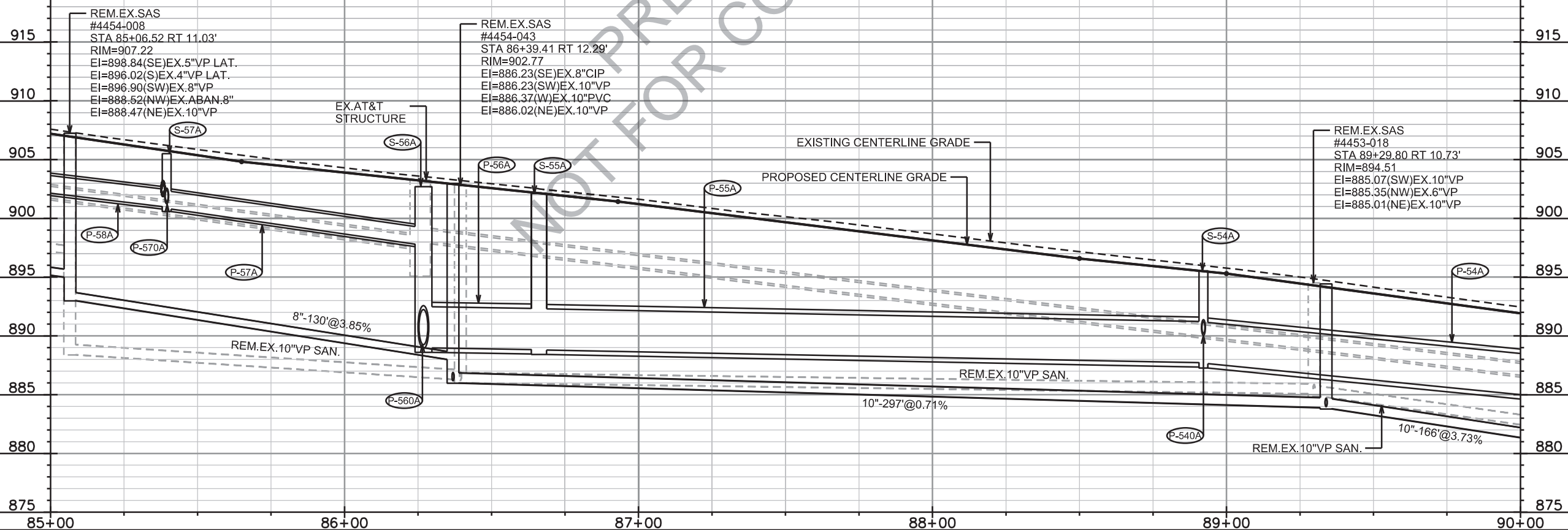
Storm Sewer Conflict  
(Will route gas main around)

Customers to  
be Served  
from Back  
Alley

New 2" PE Gas Main

MATCHLINE STA 85+00.00

MATCHLINE STA 90+00.00



MG&E GAS  
PROPOSED PLAN  
SHEET 14

0709-223-0808-0  
CLARENDON ASSOCIATES  
% PETERSON CO  
1620 Monroe St

New 8" ST Gas Main  
(Depending on Storm  
Sewer Conflict)

& TIMOTHY & MOLL  
1614 Monroe St

30"x60" Elect. Box  
(Gas Crews to coordinate with  
Electric crews timing and location)

Watermain Conflict.  
(Route new main around)

New 8" ST Gas  
Main Connection

Customers to  
be Served  
from Back  
Alley

EX.SAN.LAT.  
DEAD (SLURRY)  
COUTRE, ROBT & SUZANNE  
ATTN SCOTT COUTRE  
1617 Monroe St

0709-223-1701-5  
CITY OF MADISON PARKING  
WINGRA LOT  
1701 Monroe St

0709-224-0816-1  
GAVOL, THEODORE G & LINDA  
1639 Monroe St

0709-224-0815-3  
RC VENTURE  
1637 Monroe St

0709-224-0811-1  
XI OF THETA  
CORP, ATTN  
1633 Monroe

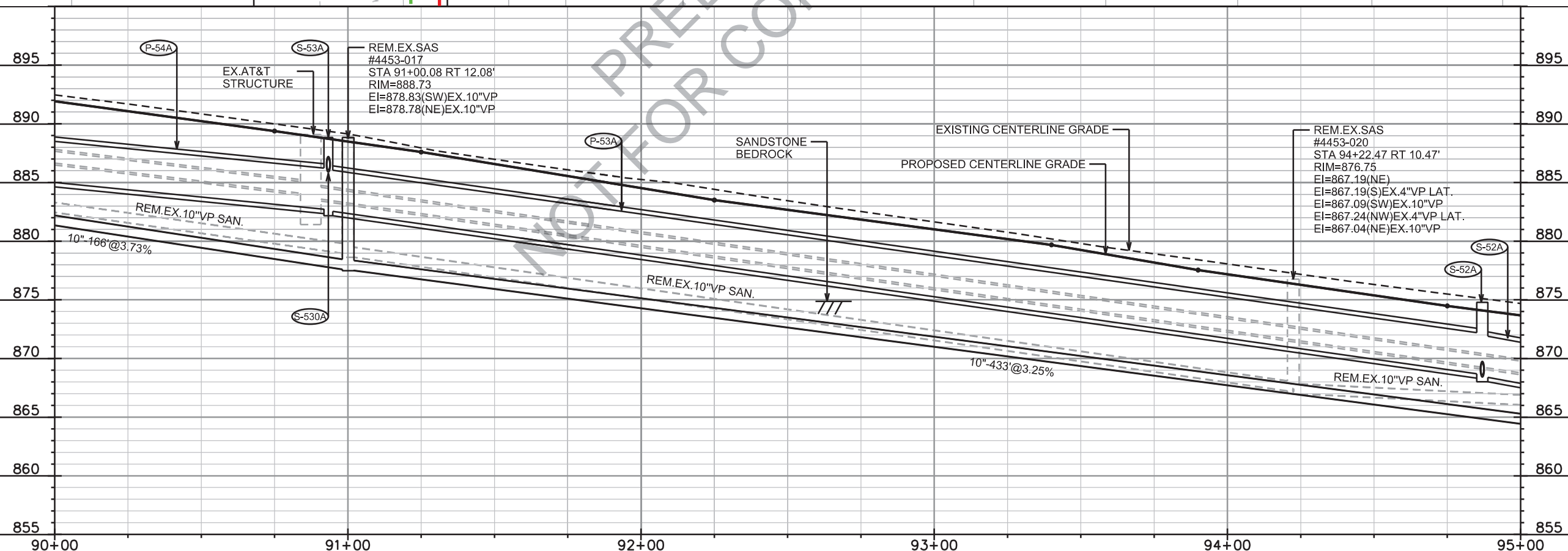
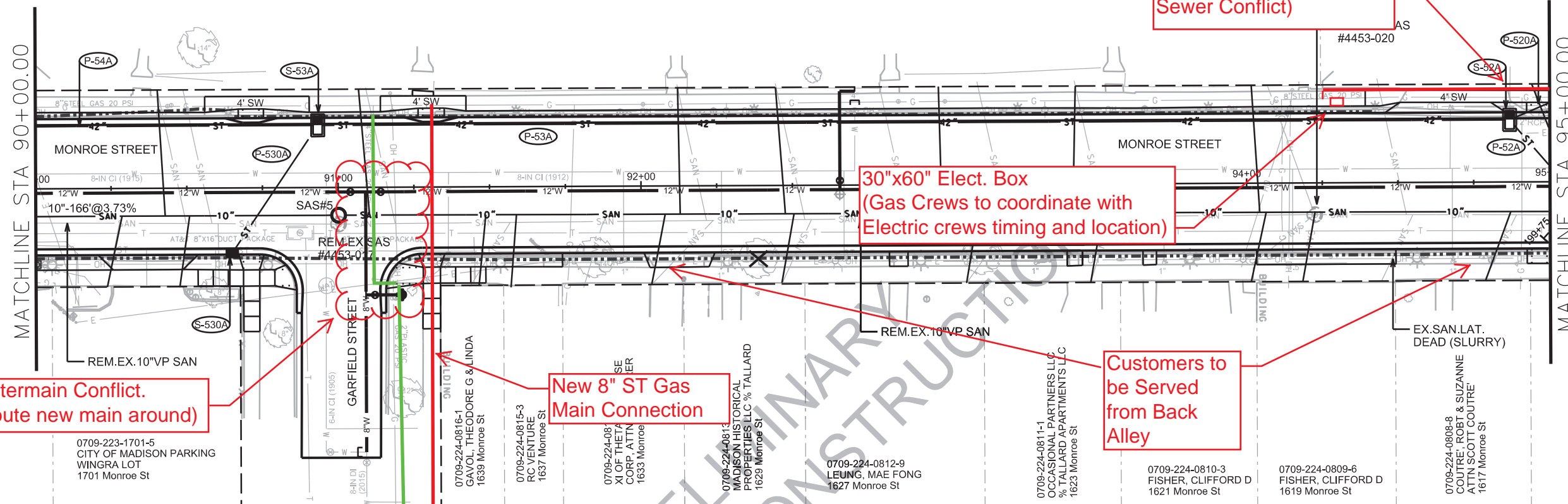
0709-224-0813  
MADISON HISTORICAL  
PROPERTIES LLC % TALLARD  
1629 Monroe St

0709-224-0812-9  
LEUNG, MAE FONG  
1627 Monroe St

0709-224-0811-1  
OCCASIONAL PARTNERS LLC  
% TALLARD APARTMENTS LLC  
1623 Monroe St

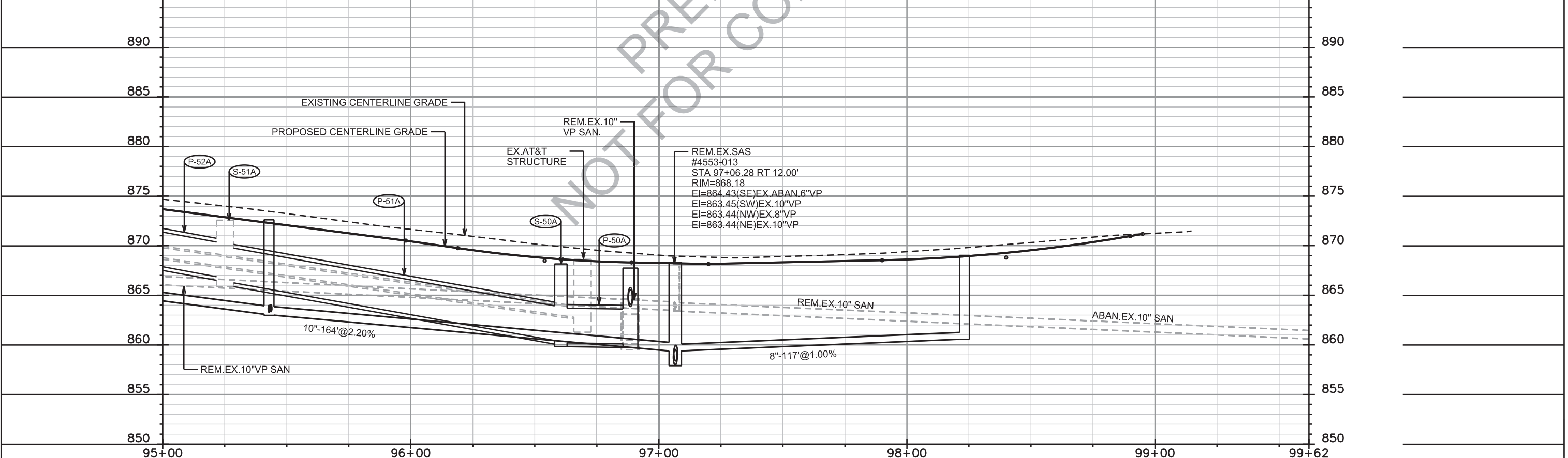
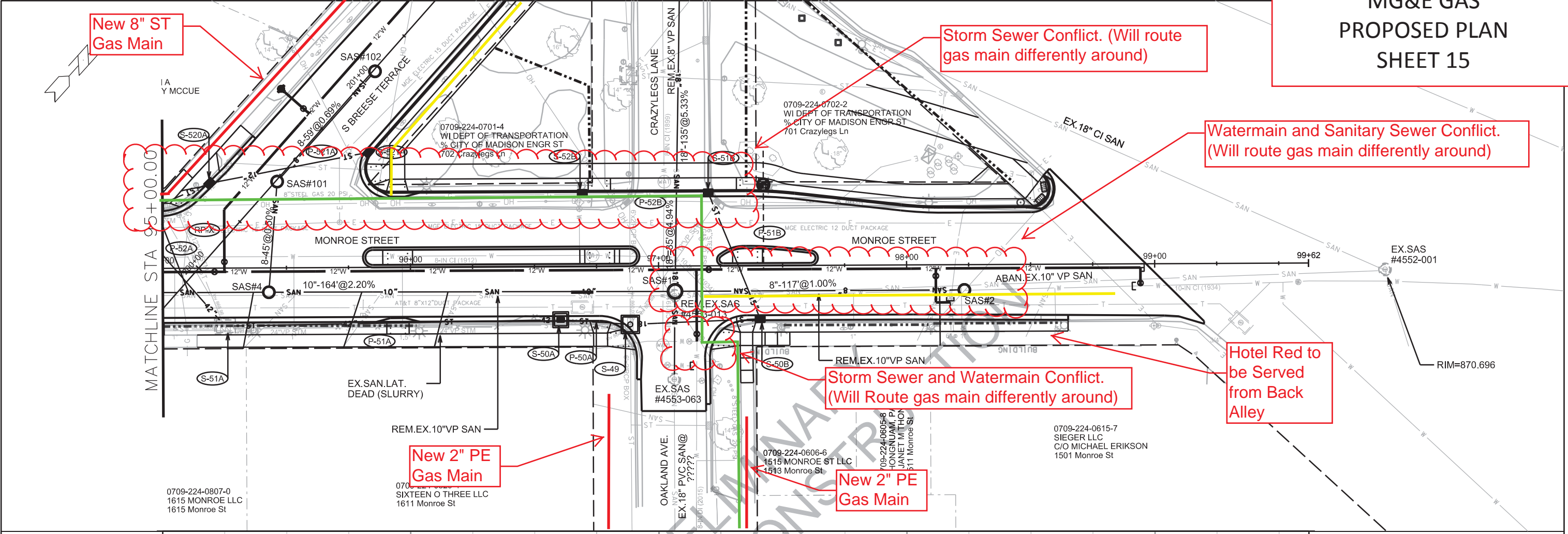
0709-224-0810-3  
FISHER, CLIFFORD D  
1621 Monroe St

0709-224-0809-6  
FISHER, CLIFFORD D  
1619 Monroe St



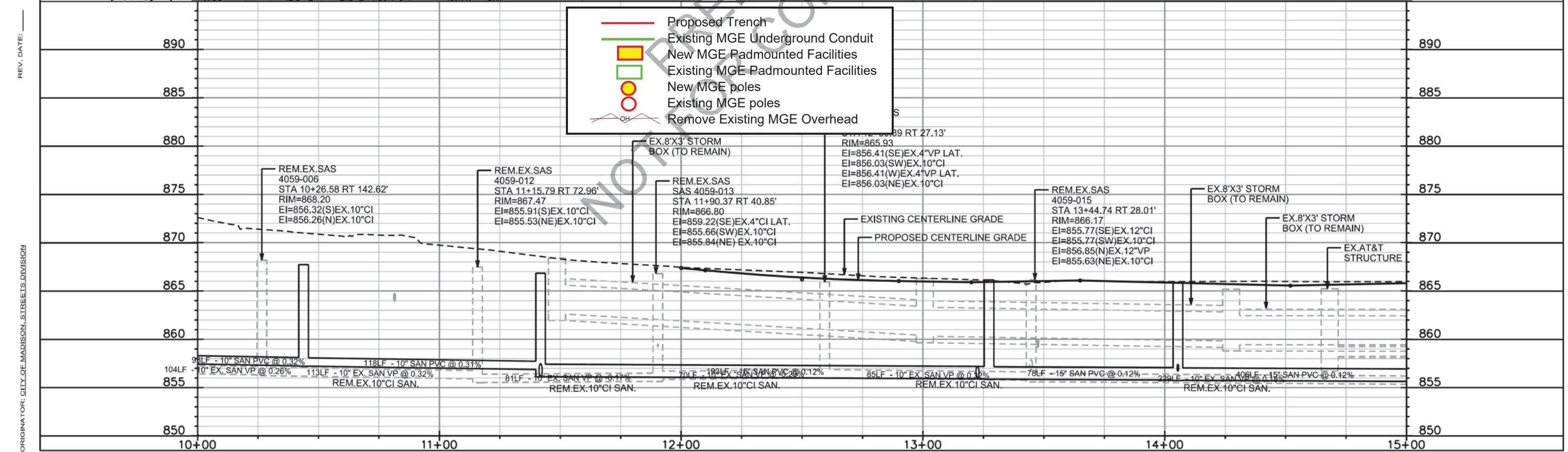
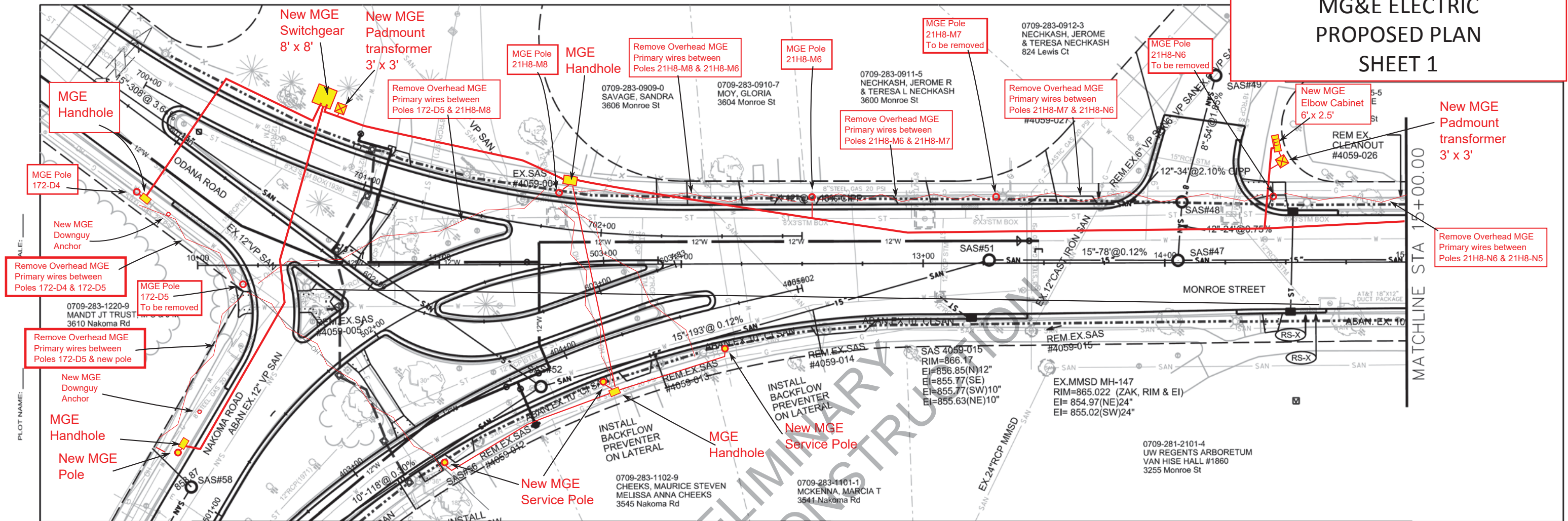


MG&E GAS  
PROPOSED PLAN  
SHEET 15



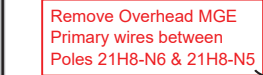


MG&E ELECTRIC  
PROPOSED PLAN  
SHEET 1

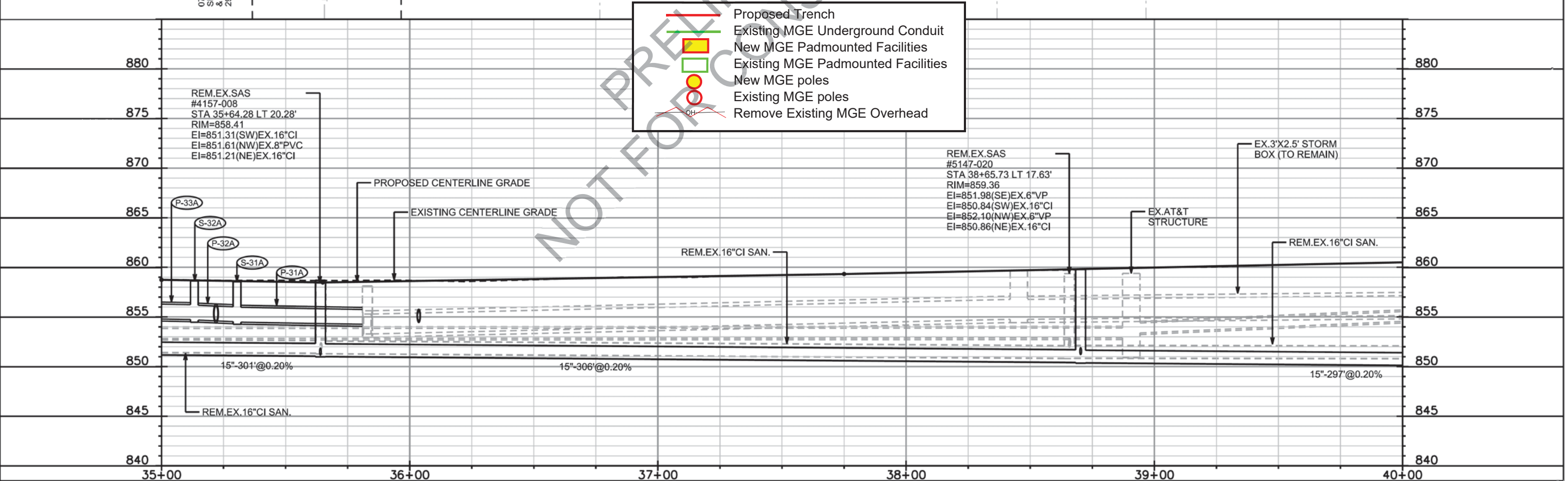




## Exhibit A

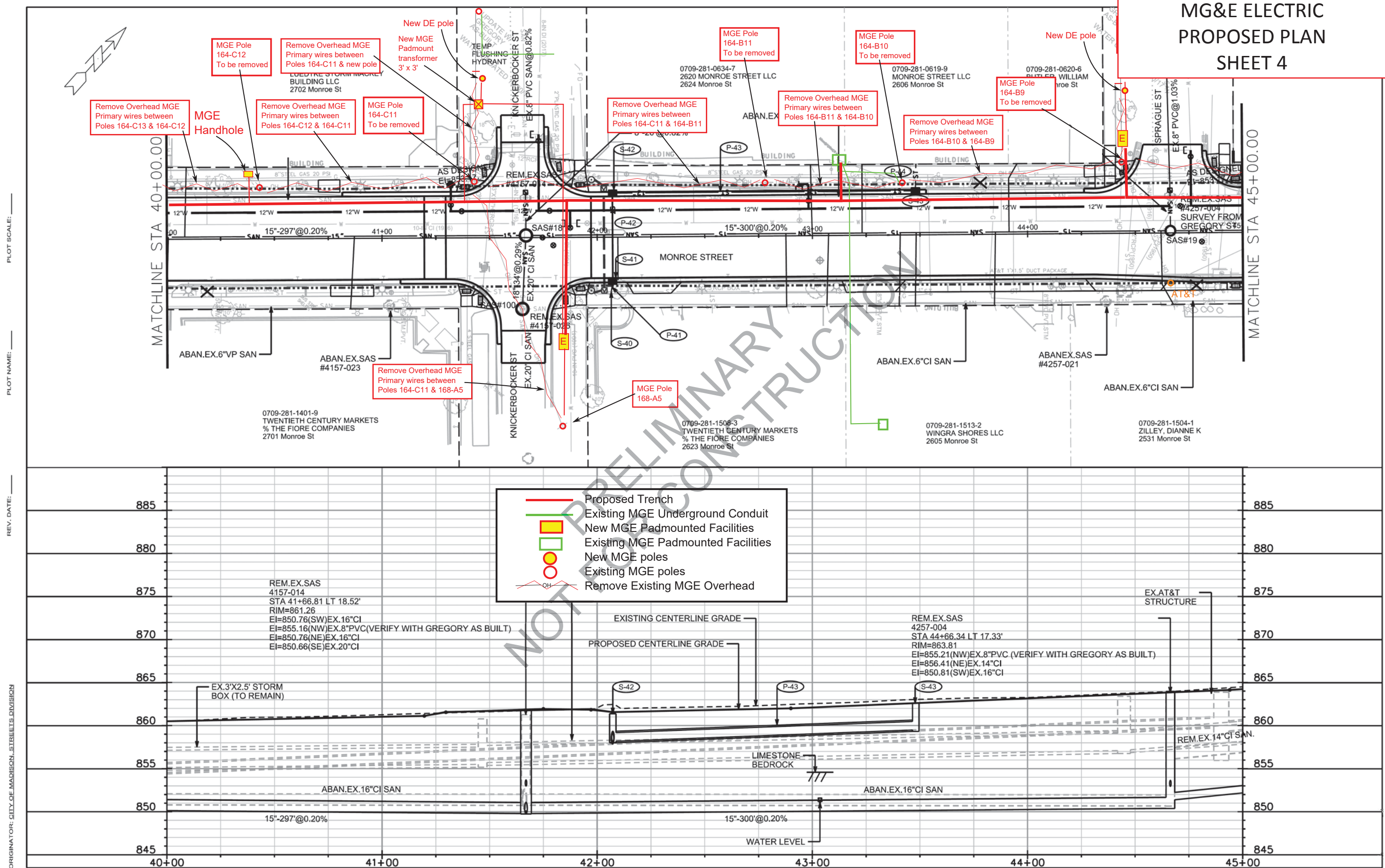


MG&E ELECTRIC  
PROPOSED PLAN  
SHEET 3



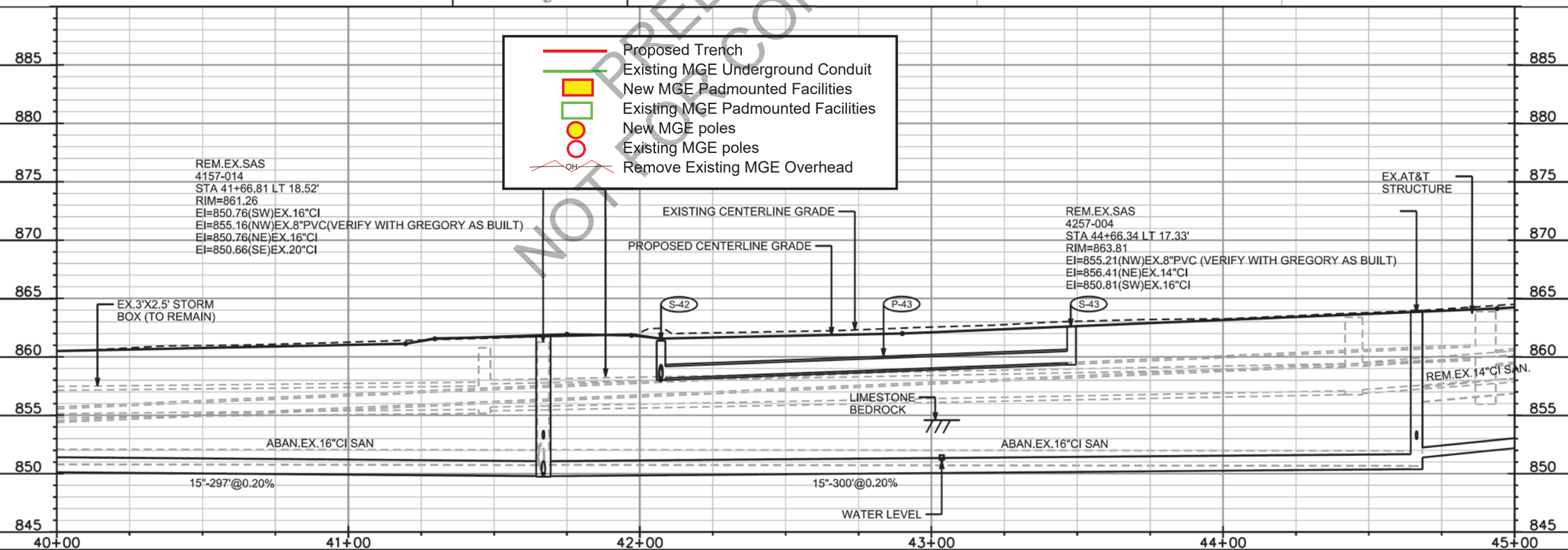


MG&E ELECTRIC  
PROPOSED PLAN  
SHEET 4



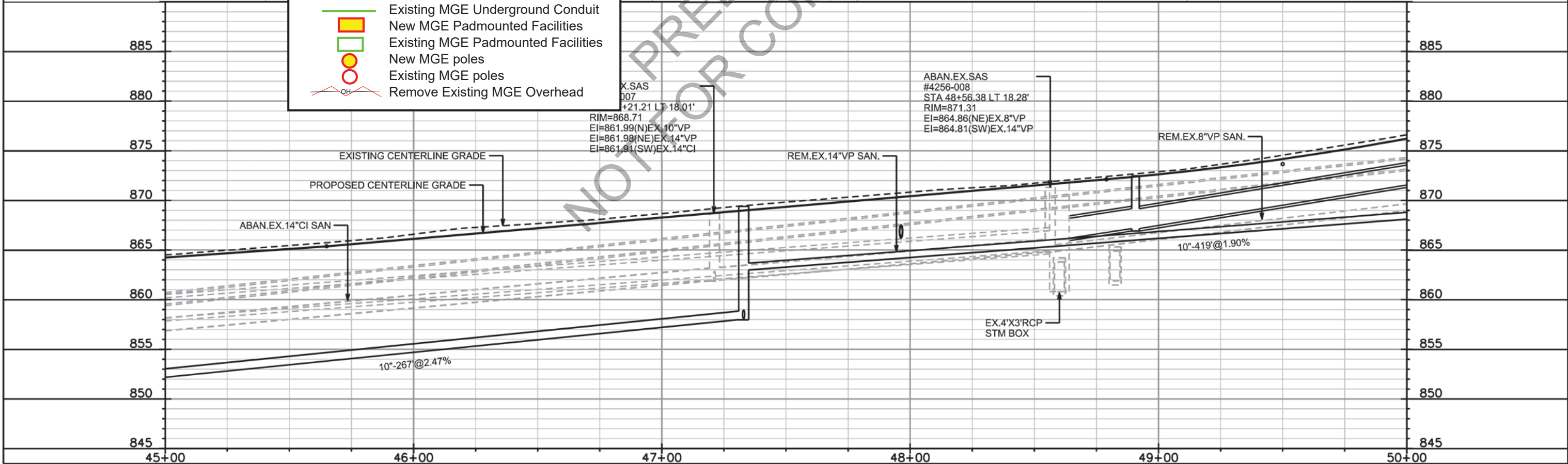
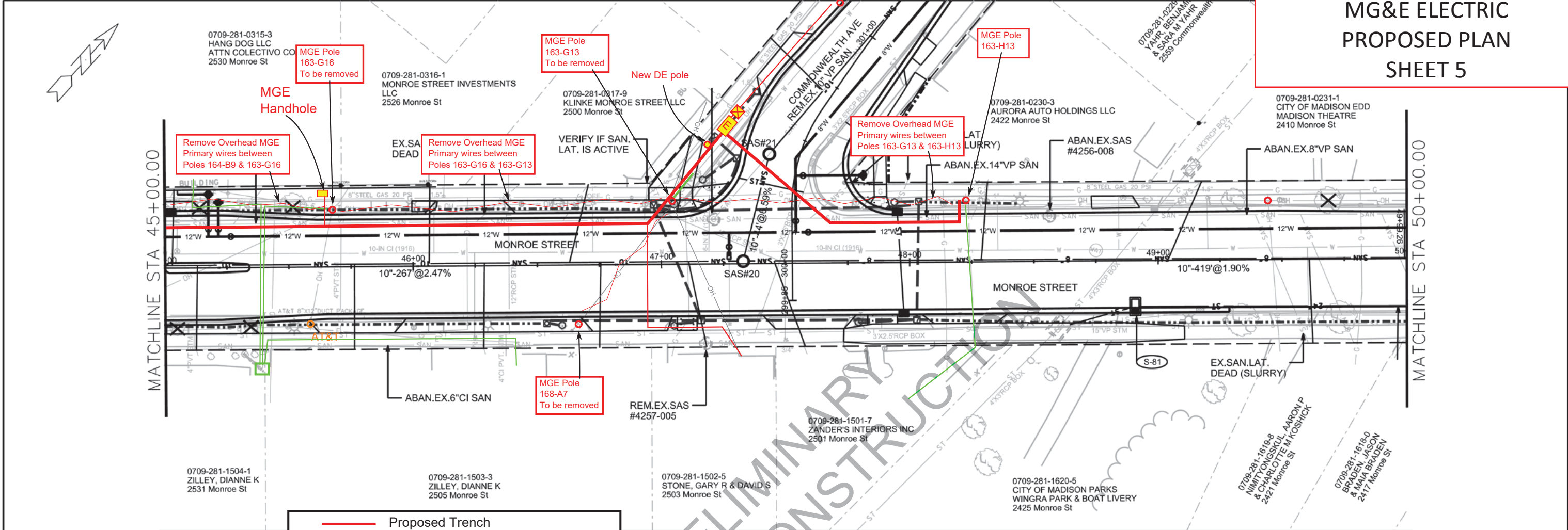
**Legend:**

- Proposed Trench
- Existing MGE Underground Conduit
- New MGE Padmounted Facilities
- Existing MGE Padmounted Facilities
- New MGE poles
- Existing MGE poles
- Remove Existing MGE Overhead



PLOT SCALE: \_\_\_\_\_  
PLOT NAME: \_\_\_\_\_  
REV. DATE: \_\_\_\_\_  
ORIGINATOR: CITY OF MADISON, STREETS DIVISION

# MG&E ELECTRIC PROPOSED PLAN SHEET 5



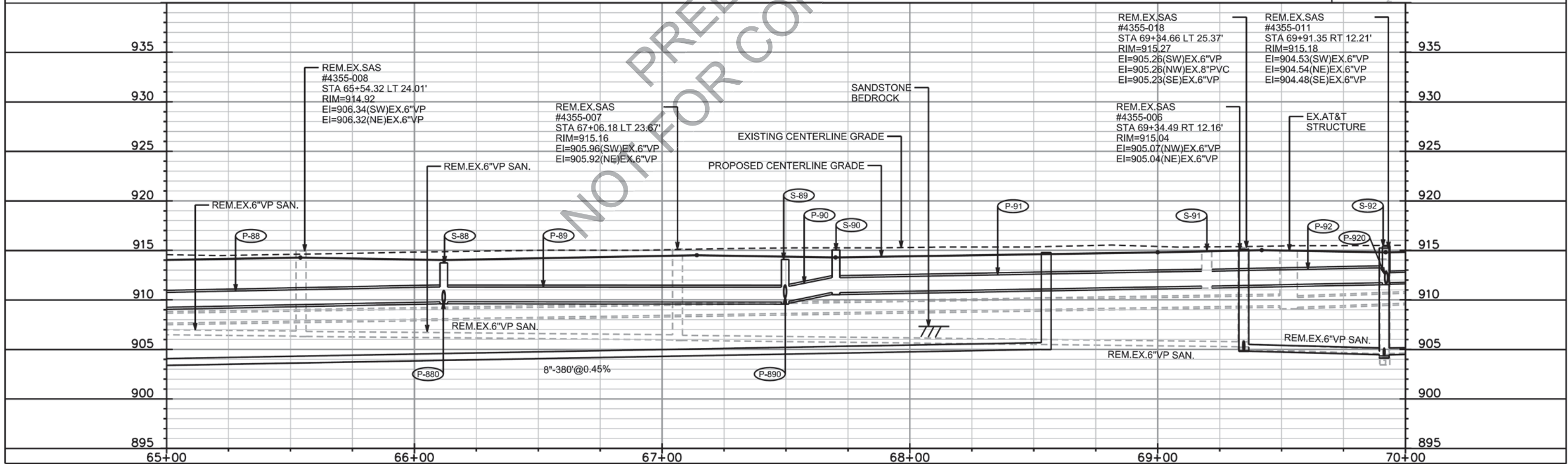
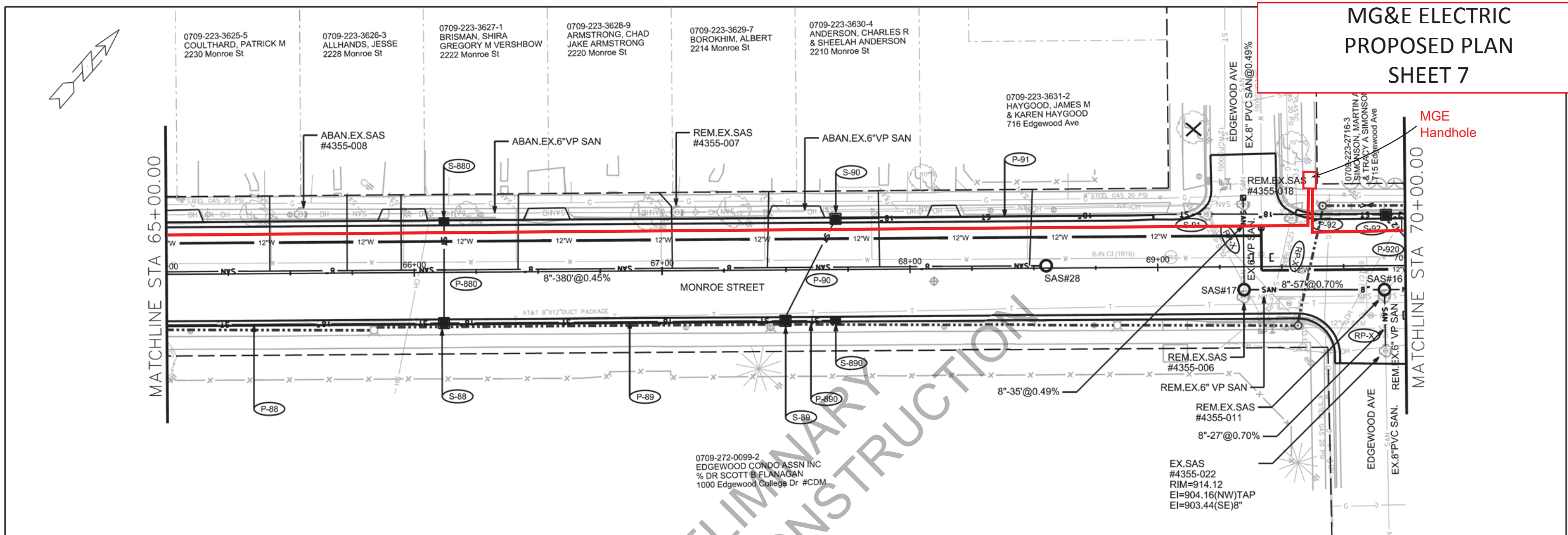


MG&E ELECTRIC  
PROPOSED PLAN  
SHEET 6



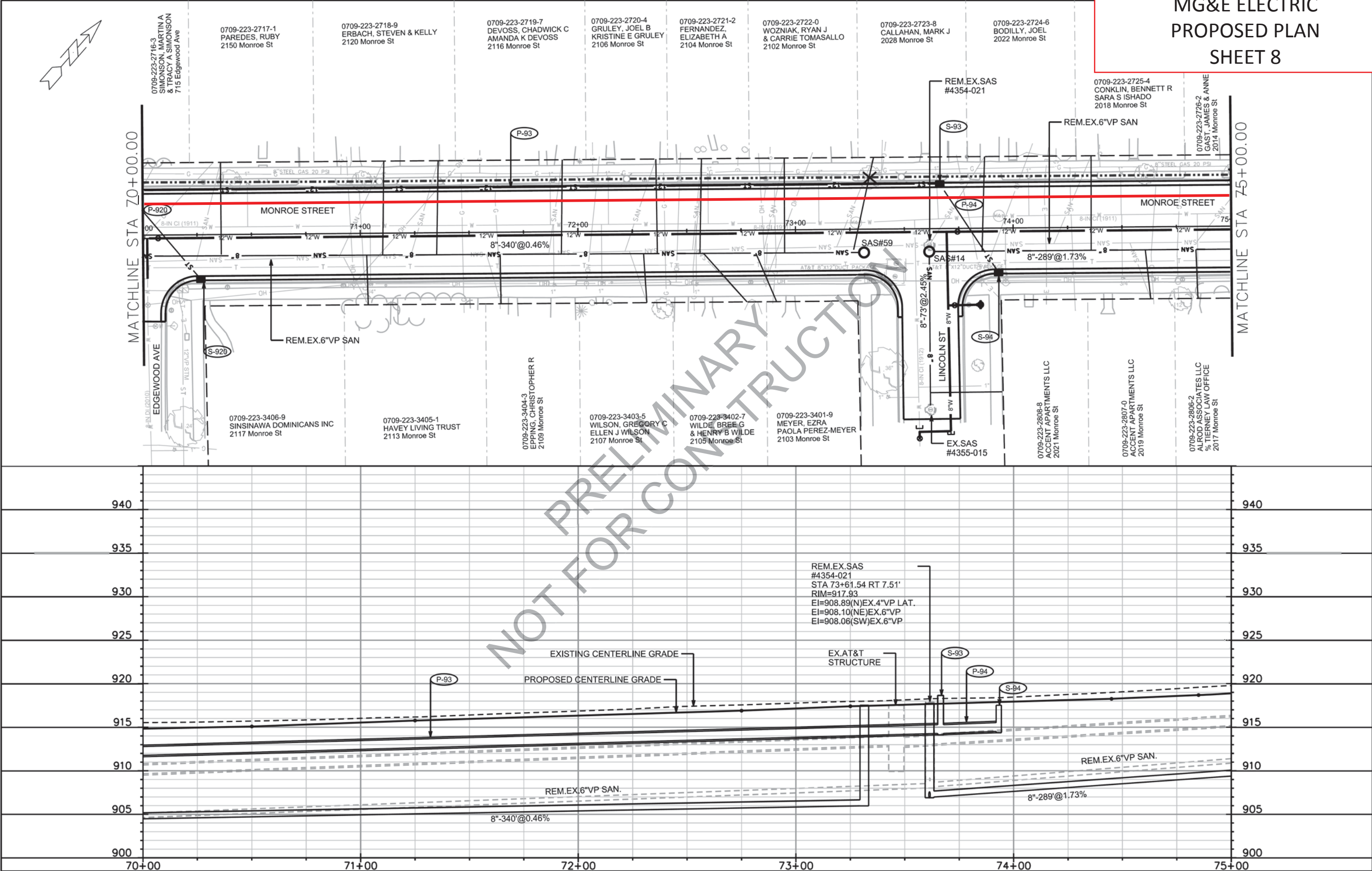
MG&E ELECTRIC  
PROPOSED PLAN  
SHEET 7

## MGE Handhole

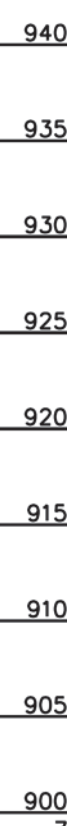




# MG&E ELECTRIC PROPOSED PLAN SHEET 8

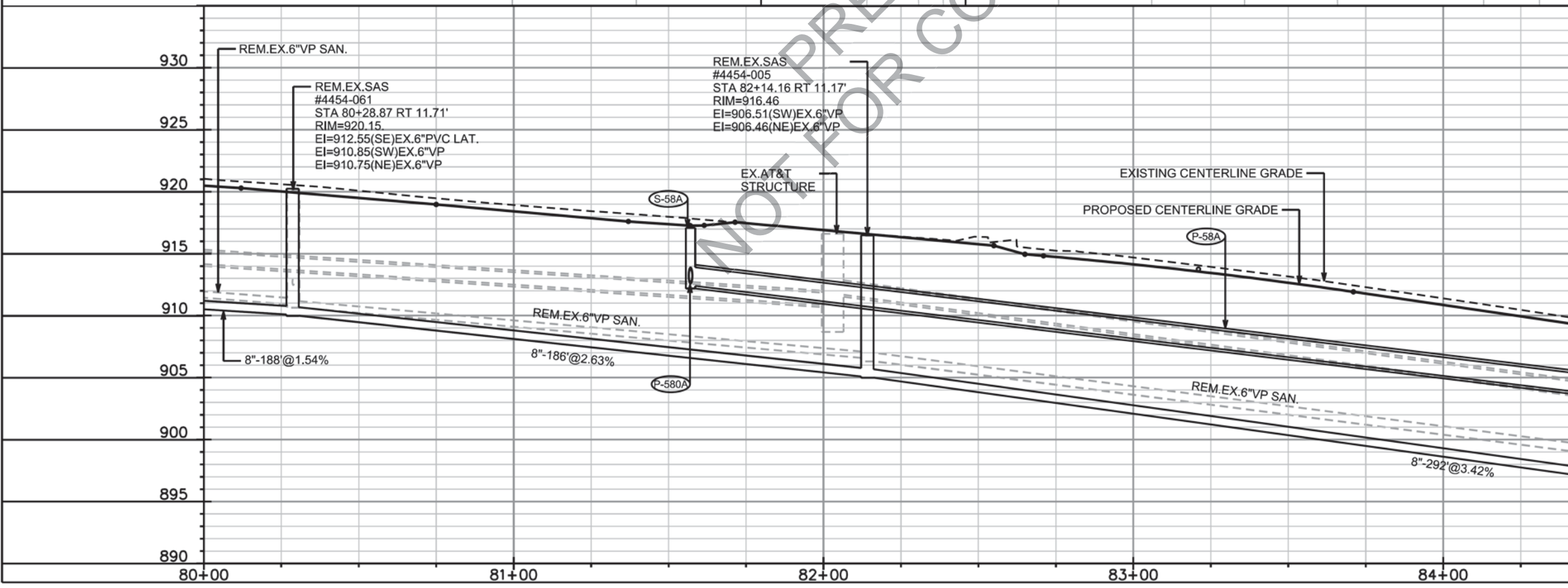
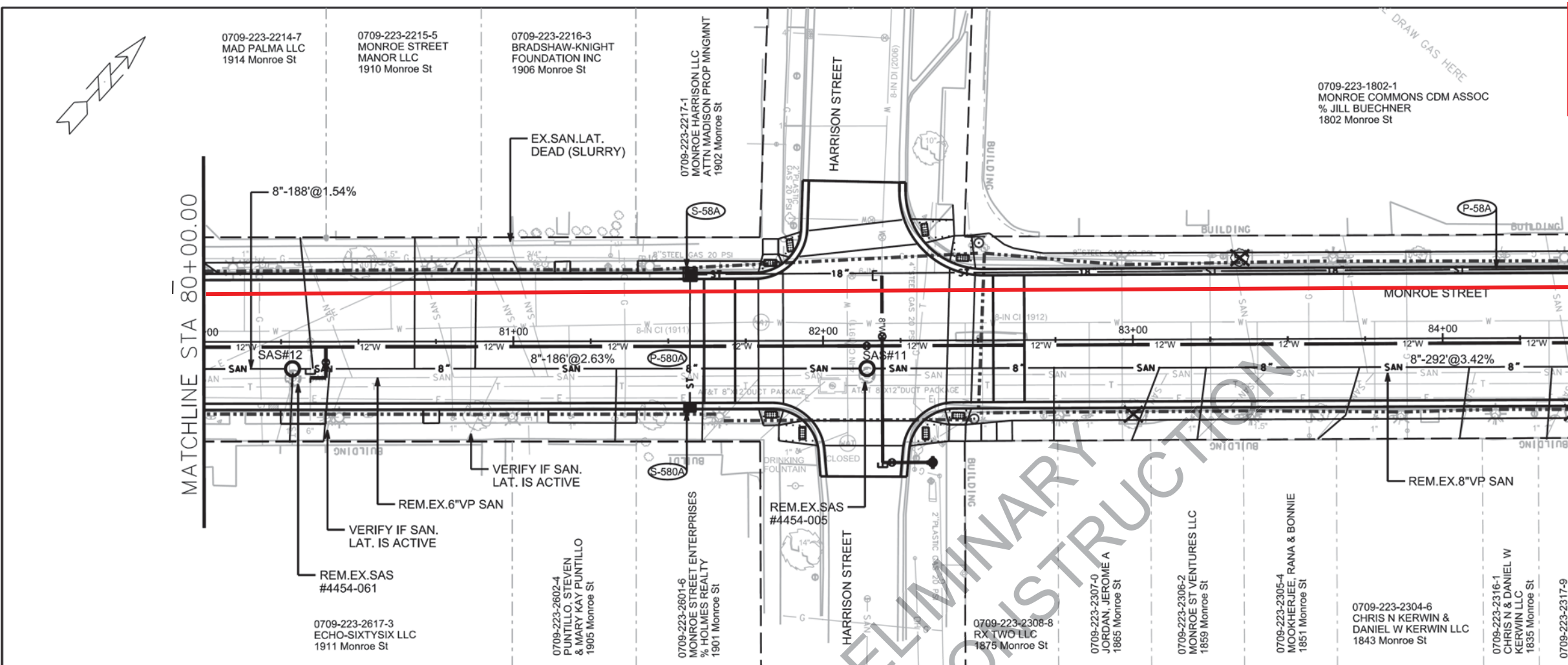


0709-223-2213-9  
OWENS, RICHARD & AMY  
1920 Monroe St



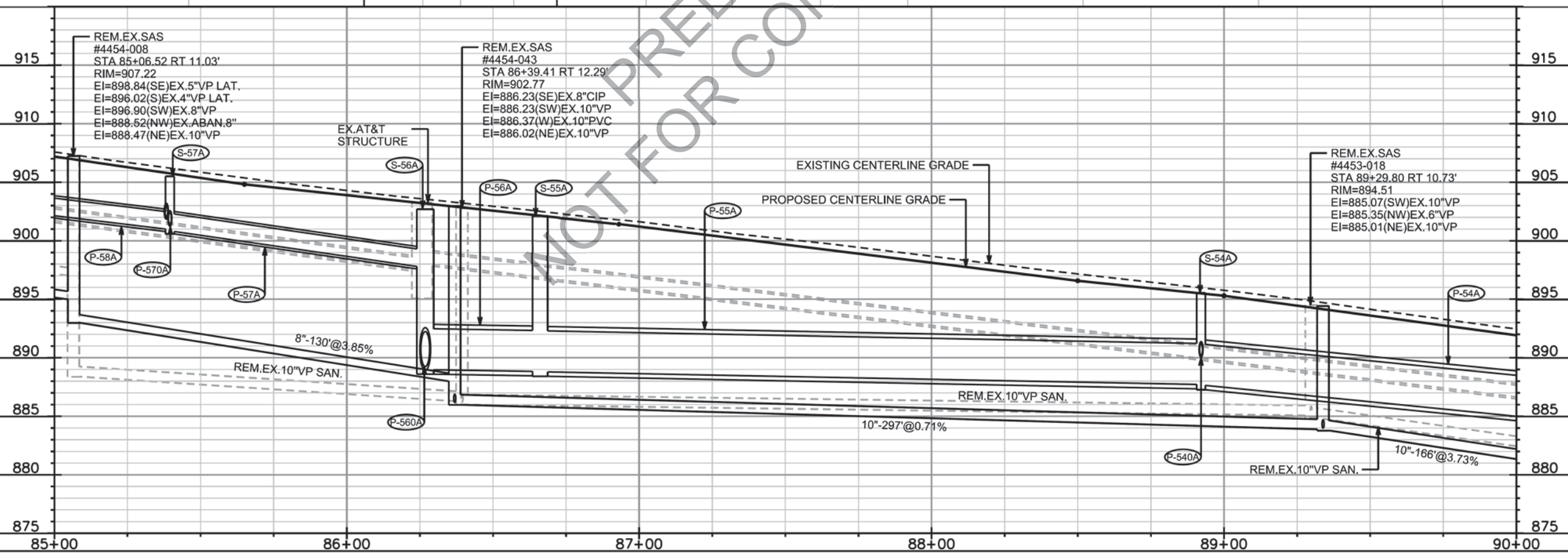
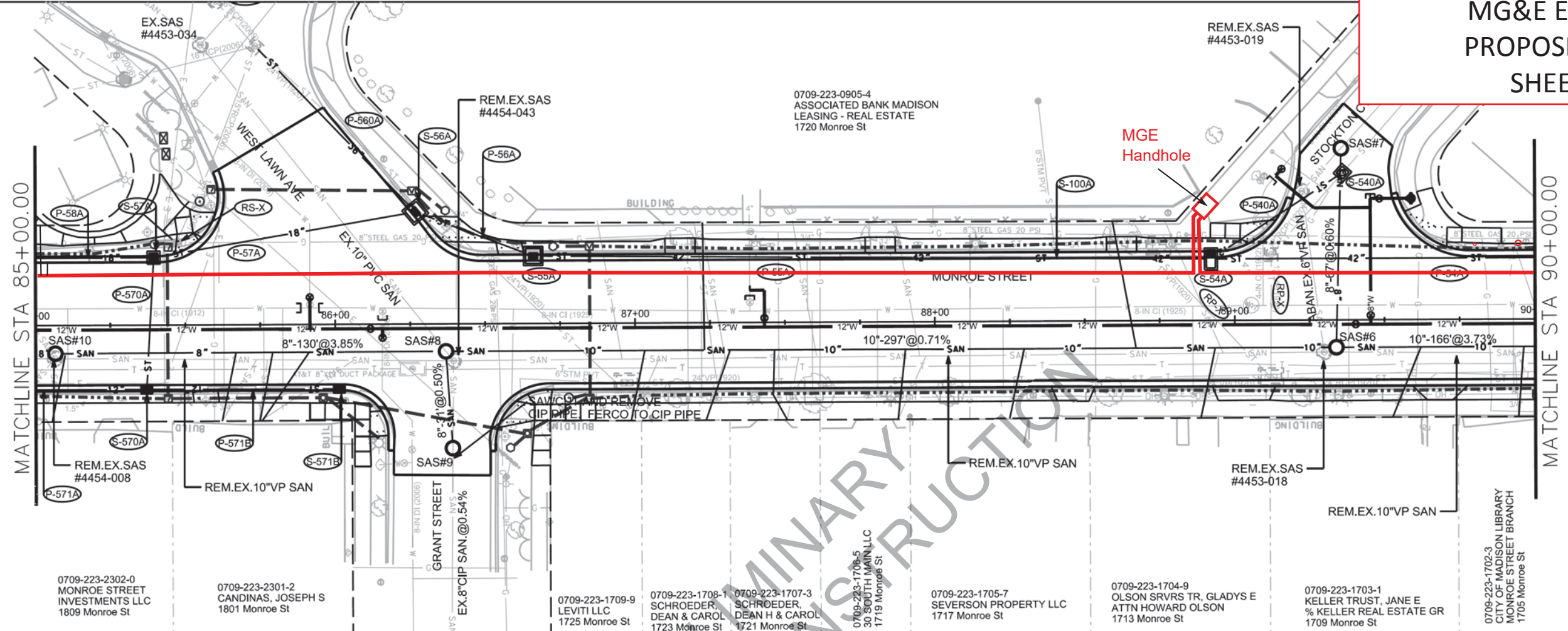


# MG&E ELECTRIC PROPOSED PLAN SHEET 10



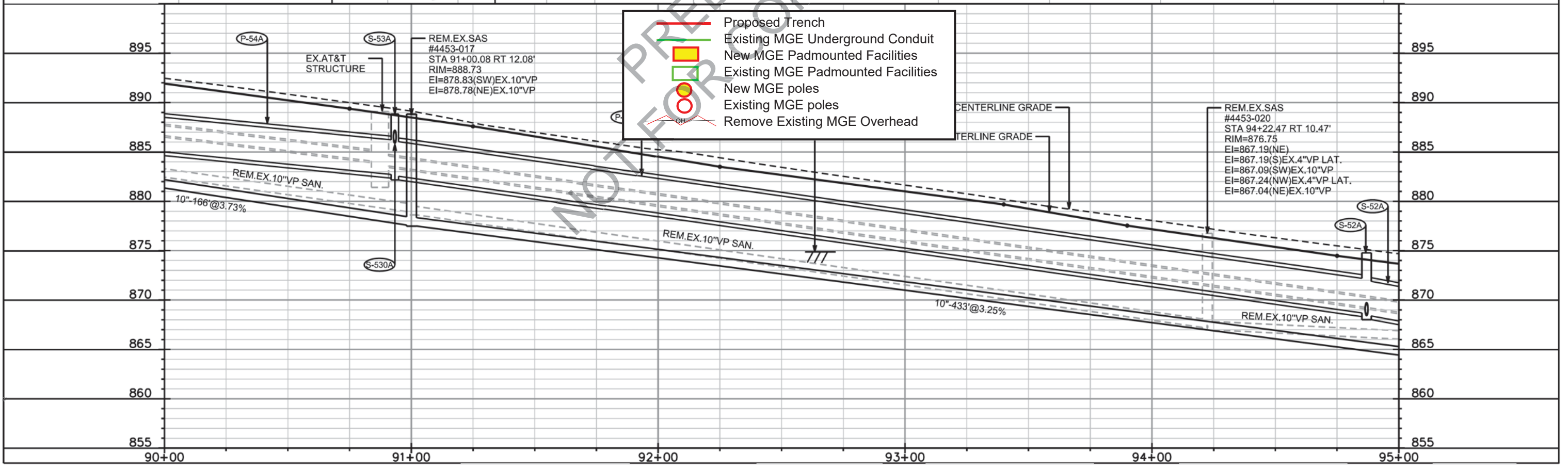
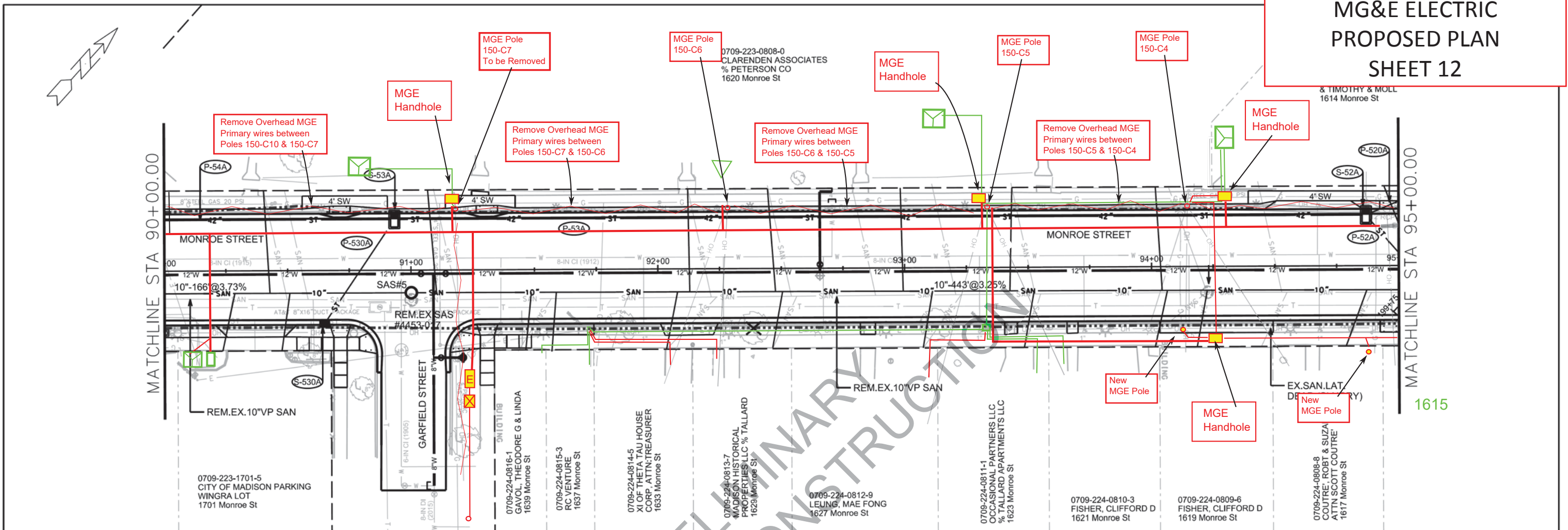
MG&E ELECTRIC  
PROPOSED PLAN  
SHEET 11

PLOT SCALE: \_\_\_\_\_  
PLOT NAME: \_\_\_\_\_  
REV. DATE: \_\_\_\_\_  
ORIGINATOR: CITY OF MADISON, STREETS DIVISION

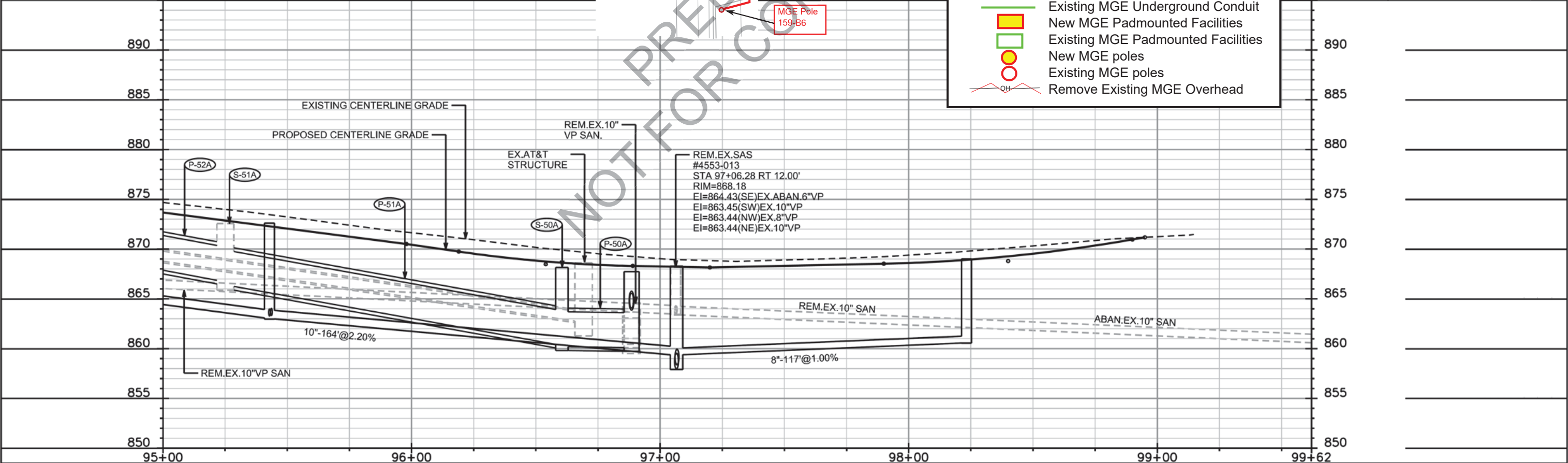




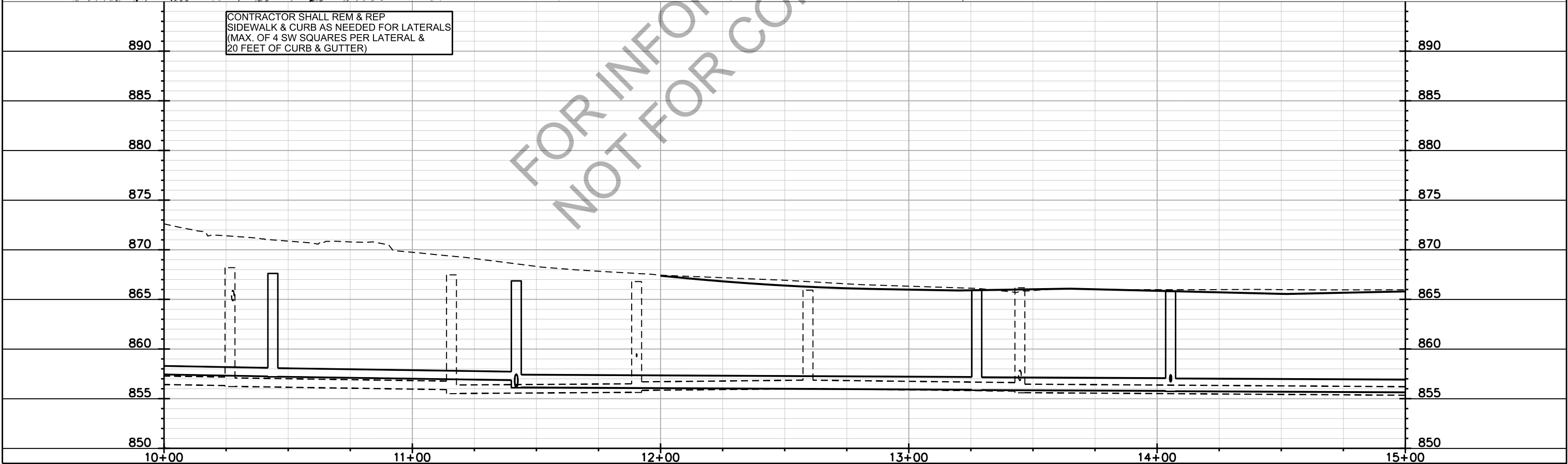
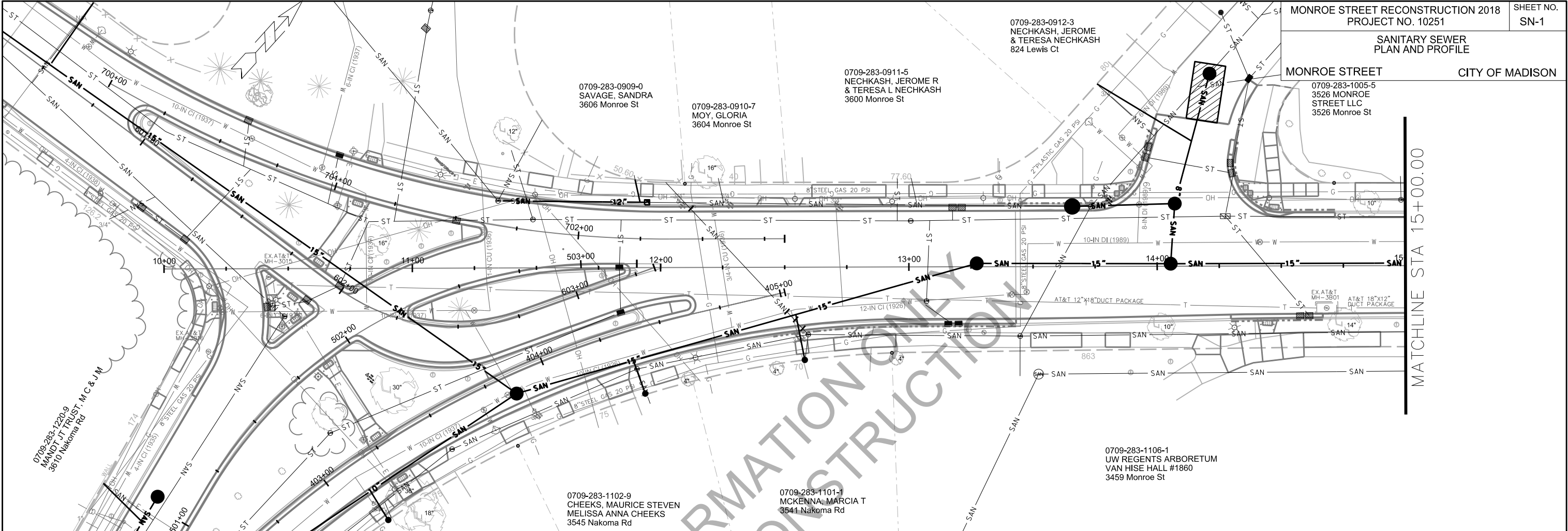
MG&E ELECTRIC  
PROPOSED PLAN  
SHEET 12

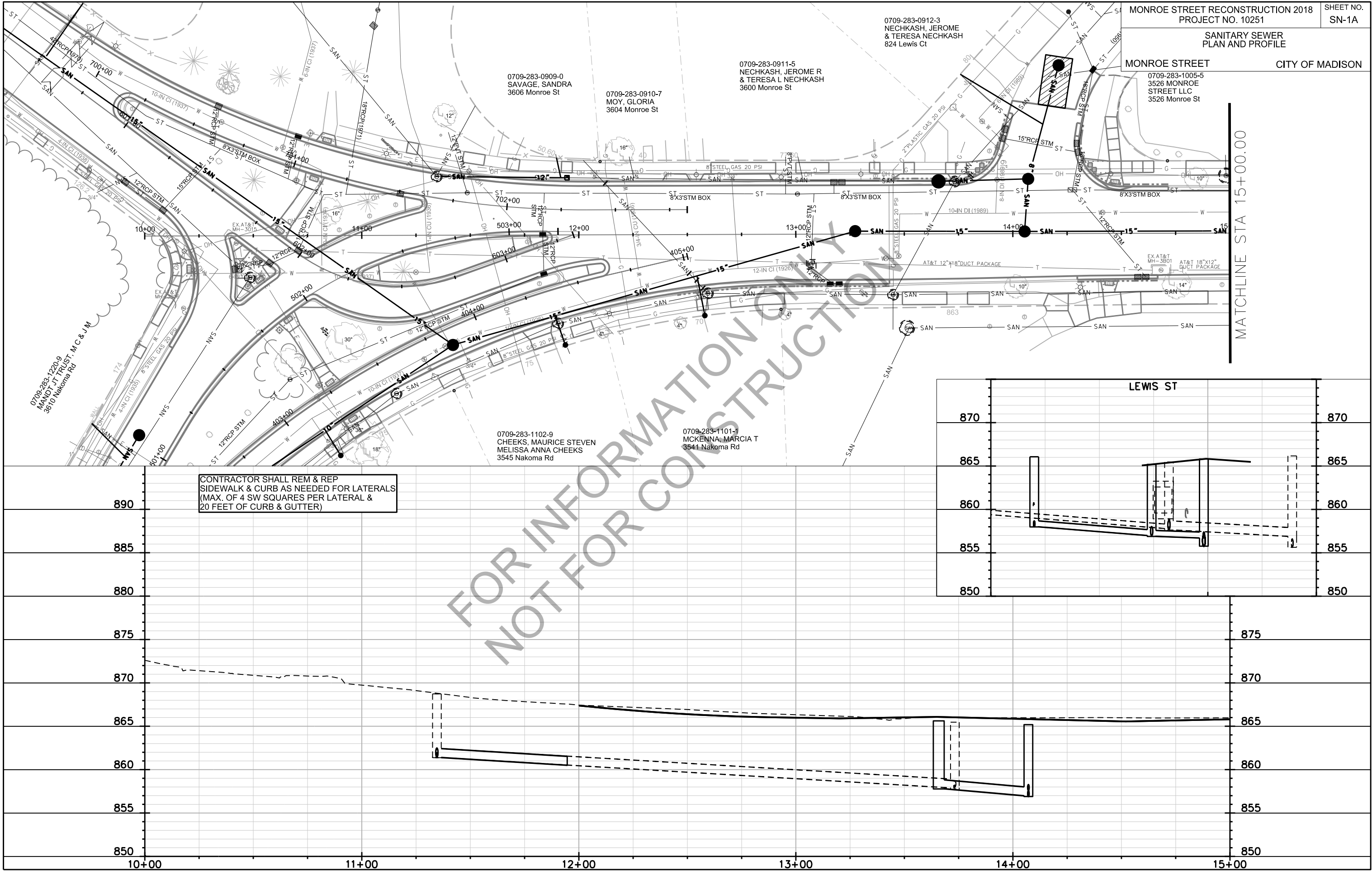


MG&E ELECTRIC  
PROPOSED PLAN  
SHEET 13

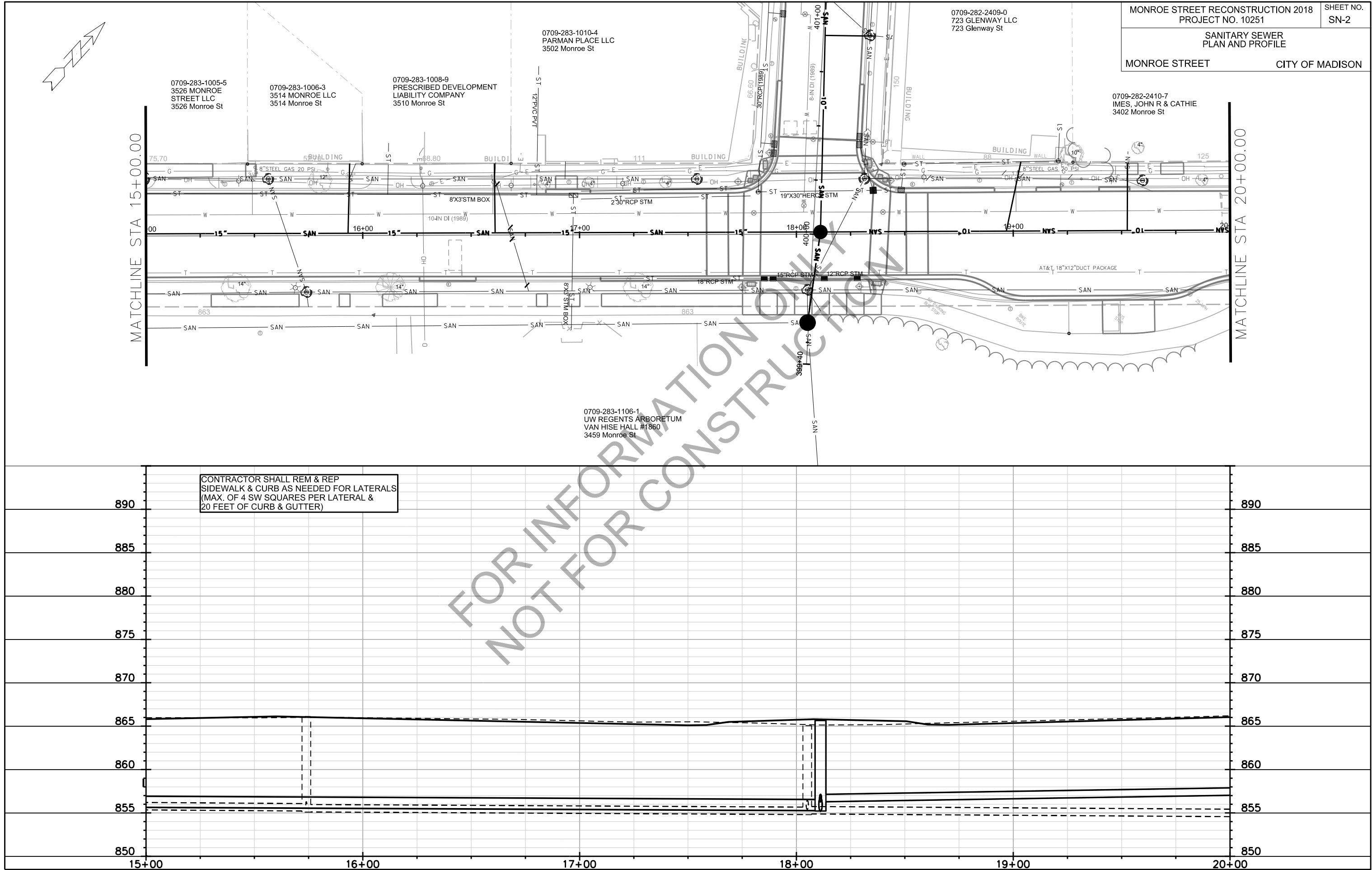


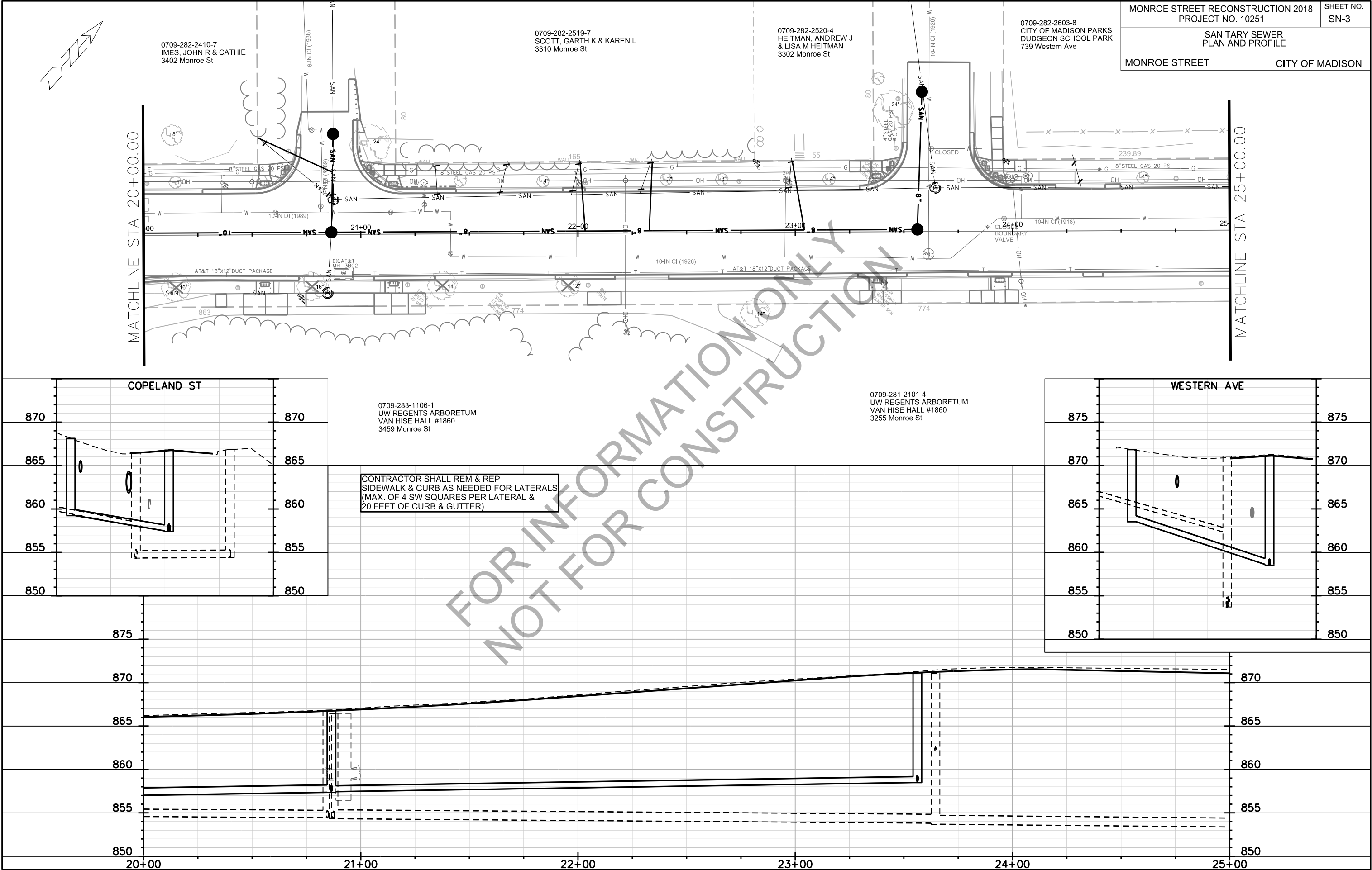












0709-282-2410-7  
IMES, JOHN R & CATHIE  
3402 Monroe St

0709-282-2519-7  
SCOTT, GARTH K & KAREN L  
3310 Monroe St

0709-282-2520-4  
HEITMAN, ANDREW J  
& LISA M HEITMAN  
3302 Monroe St

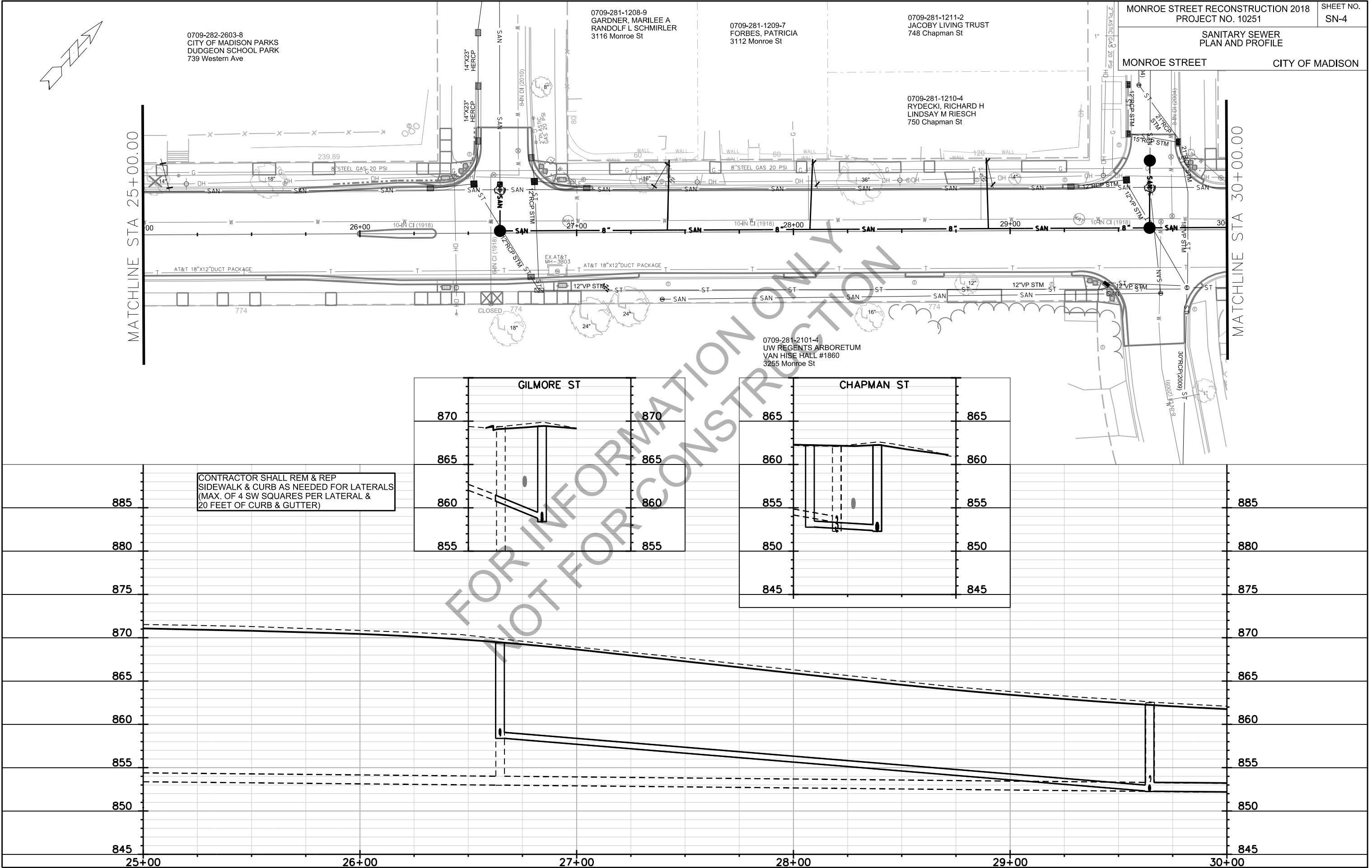
0709-282-2603-8  
CITY OF MADISON PARKS  
DUDGEON SCHOOL PARK  
739 Western Ave

0709-283-1106-1  
UW REGENTS ARBORETUM  
VAN HISE HALL #1860  
3459 Monroe St

0709-281-2101-4  
UW REGENTS ARBORETUM  
VAN HISE HALL #1860  
3255 Monroe St

CONTRACTOR SHALL REM & REP  
SIDEWALK & CURB AS NEEDED FOR LATERALS  
(MAX. OF 4 SW SQUARES PER LATERAL &  
20 FEET OF CURB & GUTTER)

ORIGINATOR: CITY OF MADISON, STREETS DIVISION  
REV. DATE:  
PLOT NAME:  
PLOT SCALE:

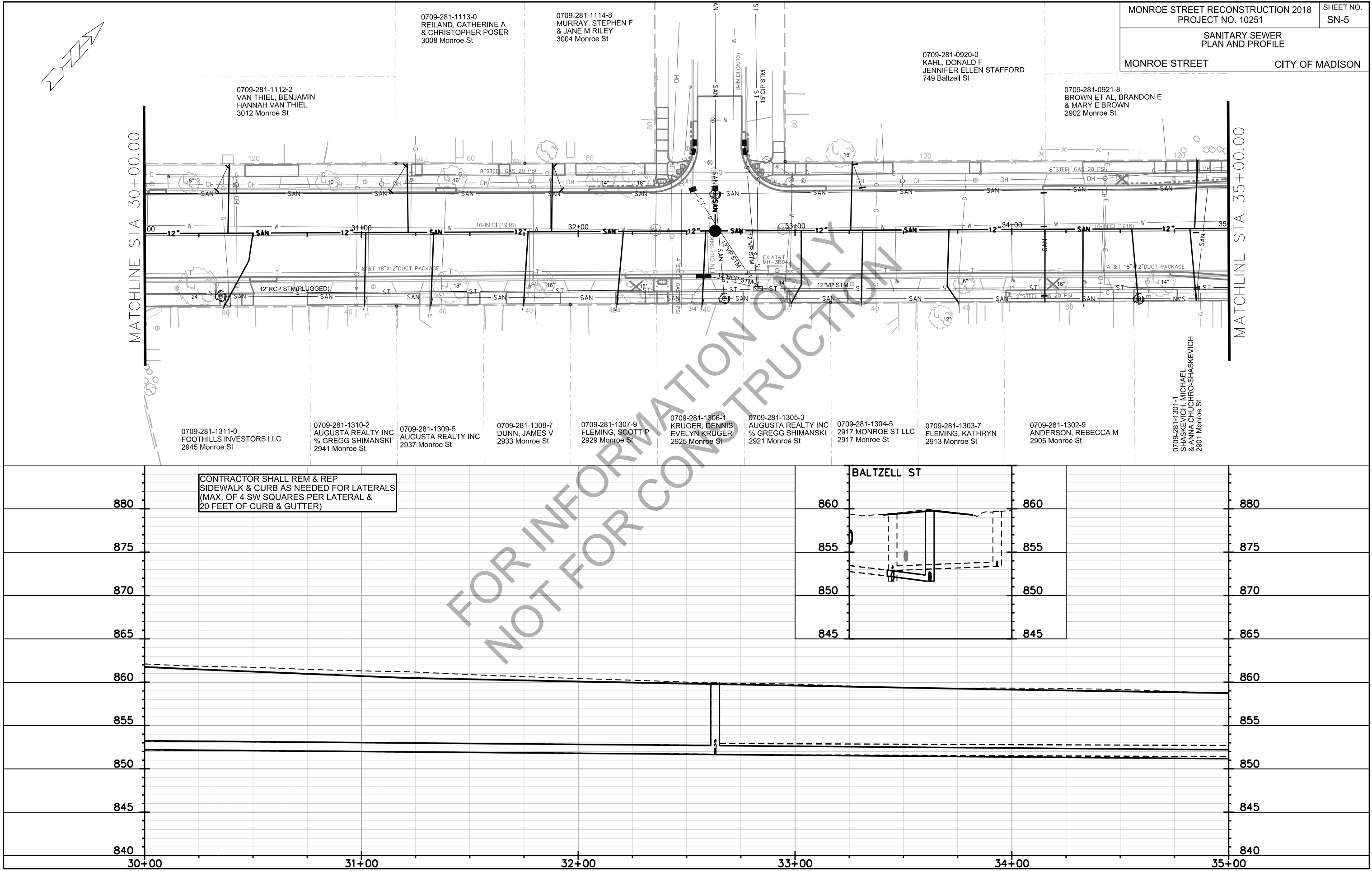


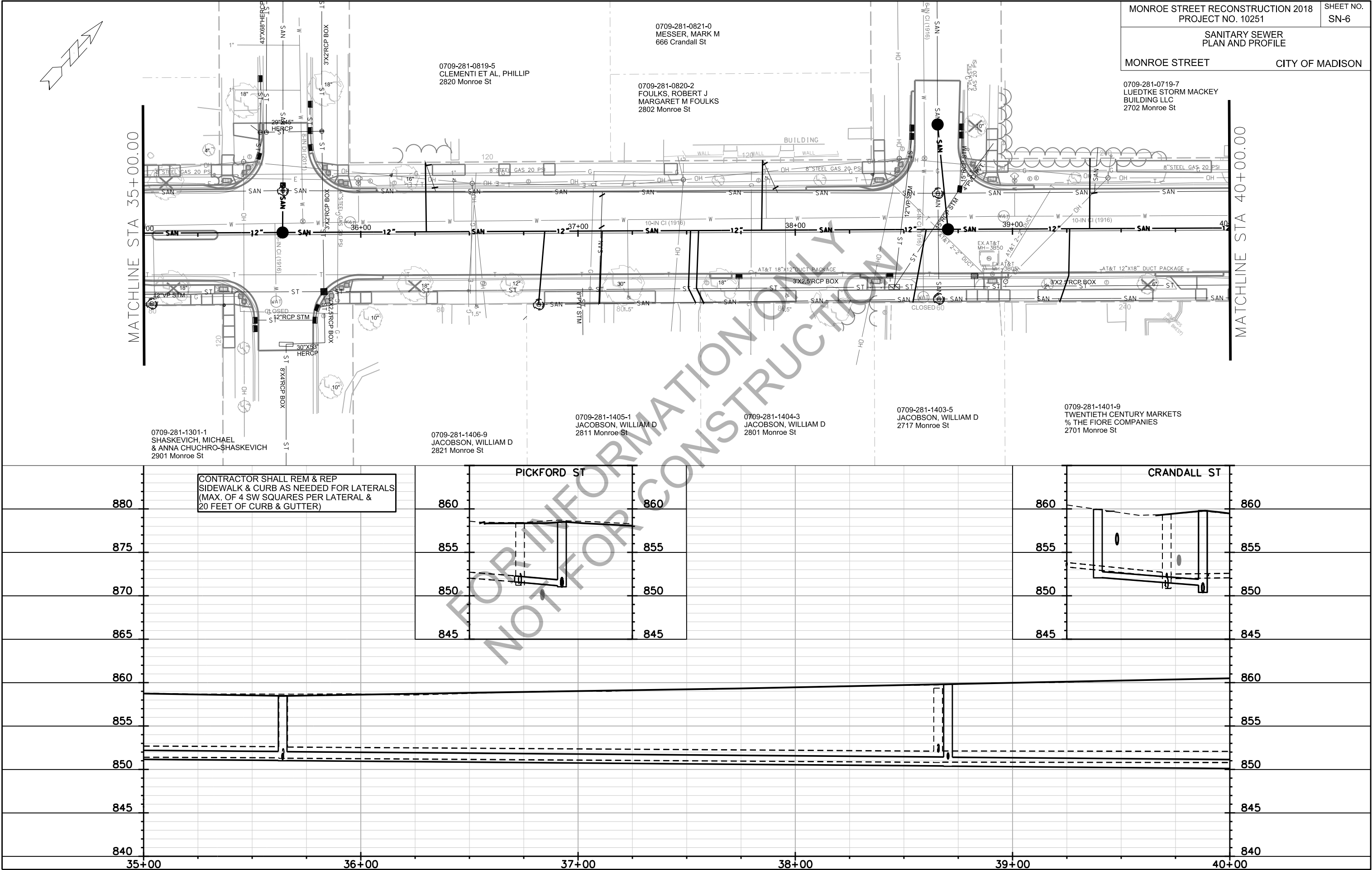
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PLOT NAME:

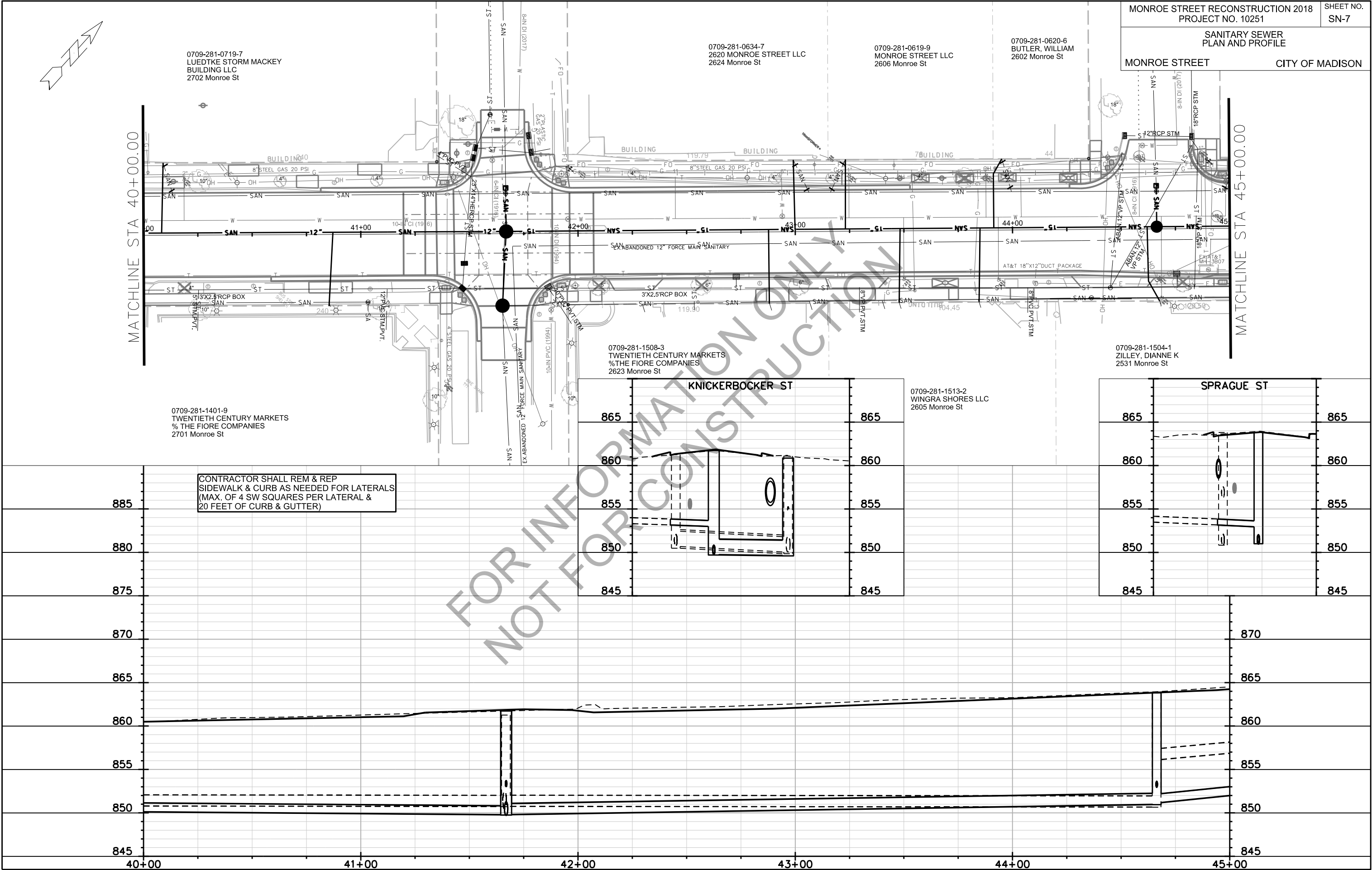
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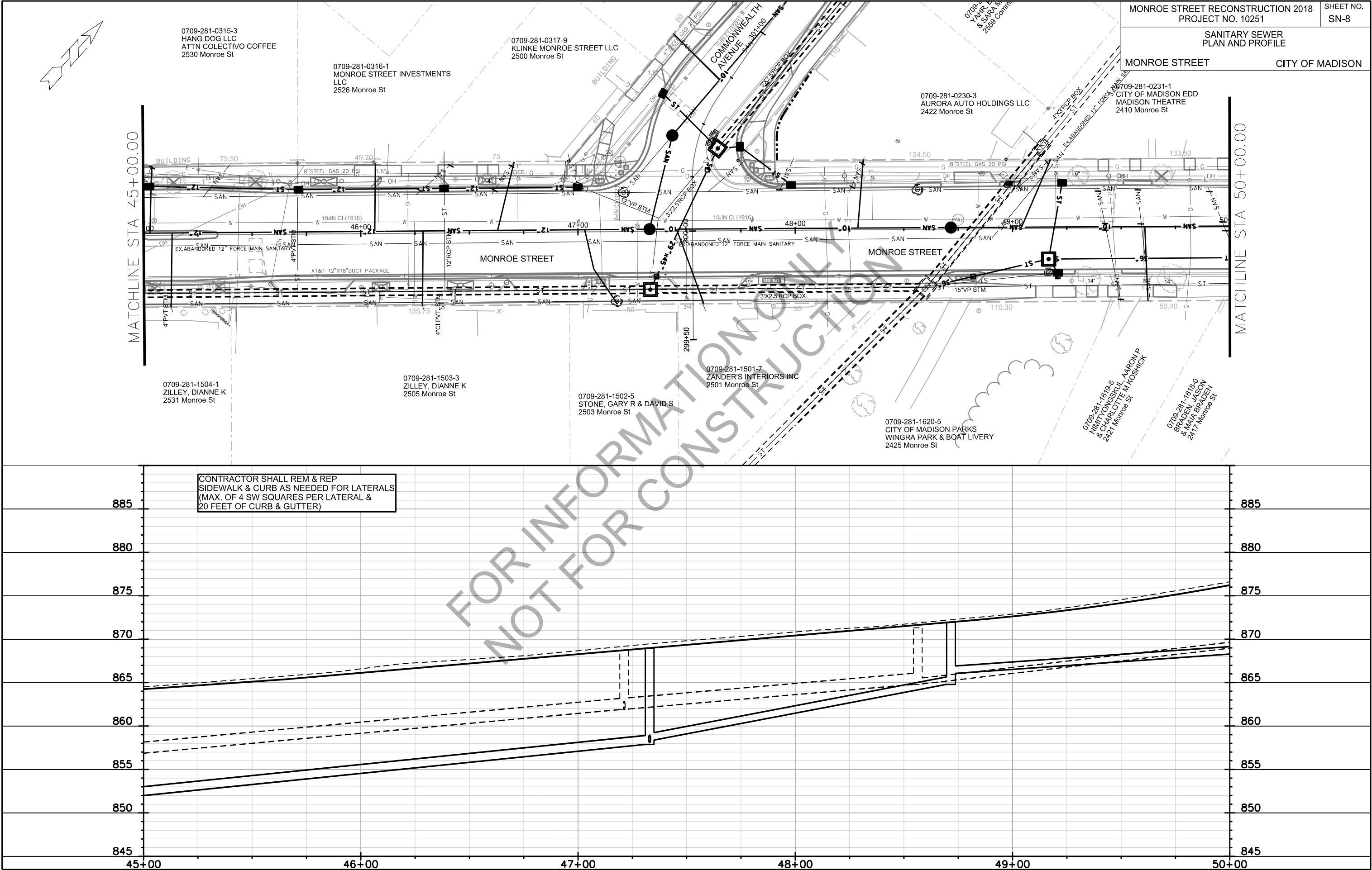
ORIGINATOR: CITY OF MADISON, STREETS DIVISION





PLOT SCALE:  
PLOT NAME:  
REV. DATE:  
ORIGINATOR: CITY OF MADISON, STREETS DIVISION



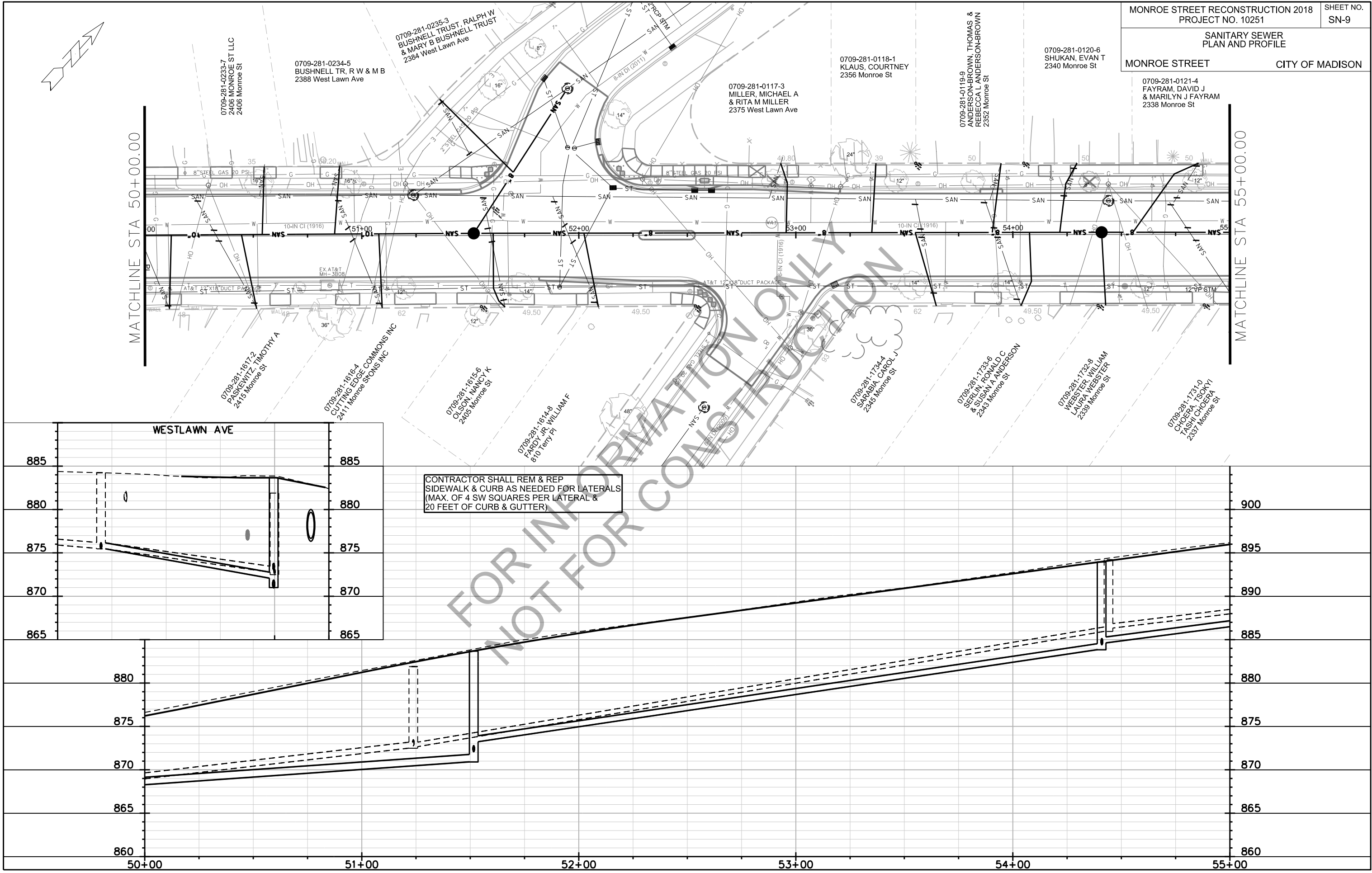


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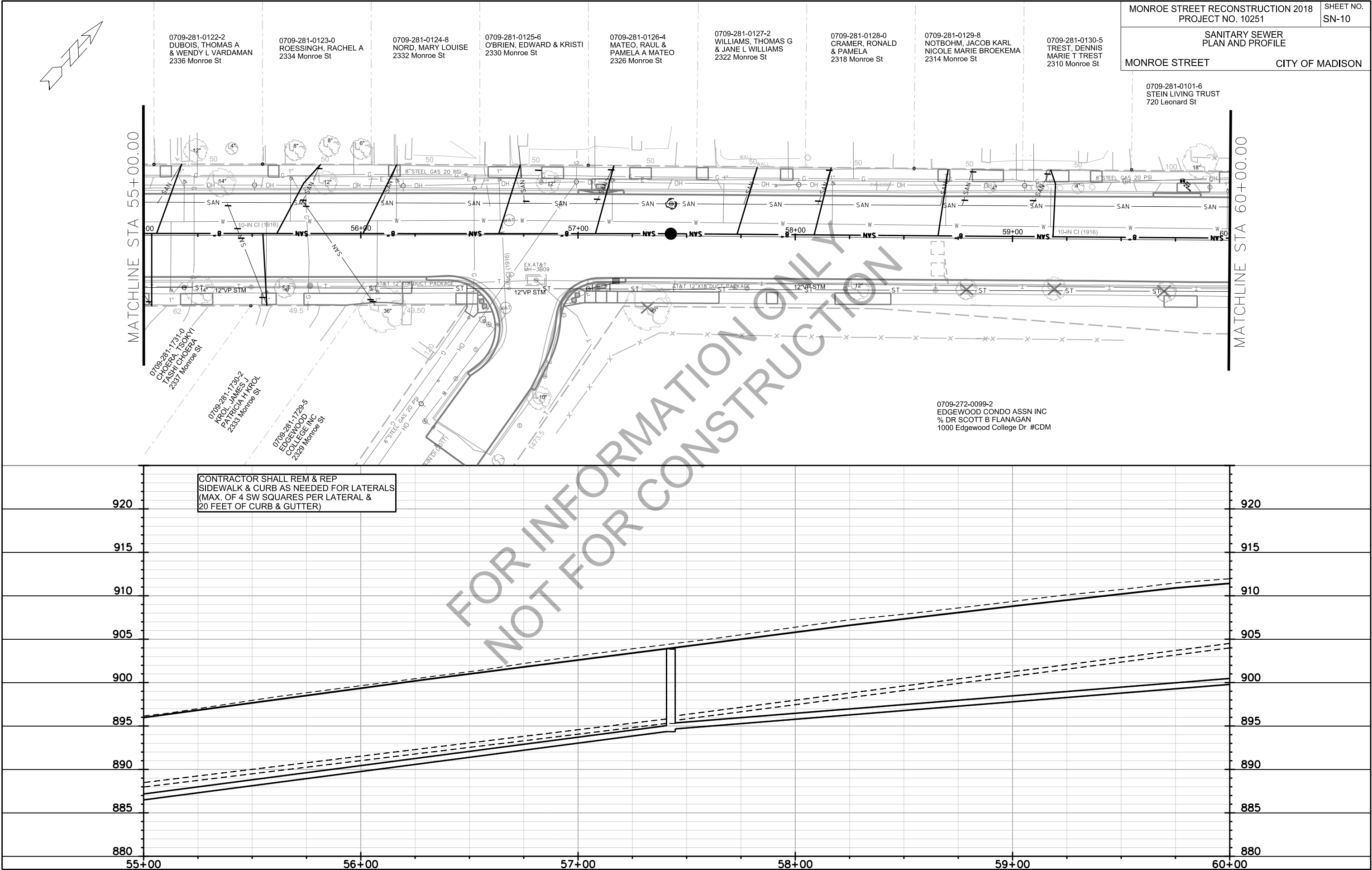
PLOT NAME: \_\_\_\_\_

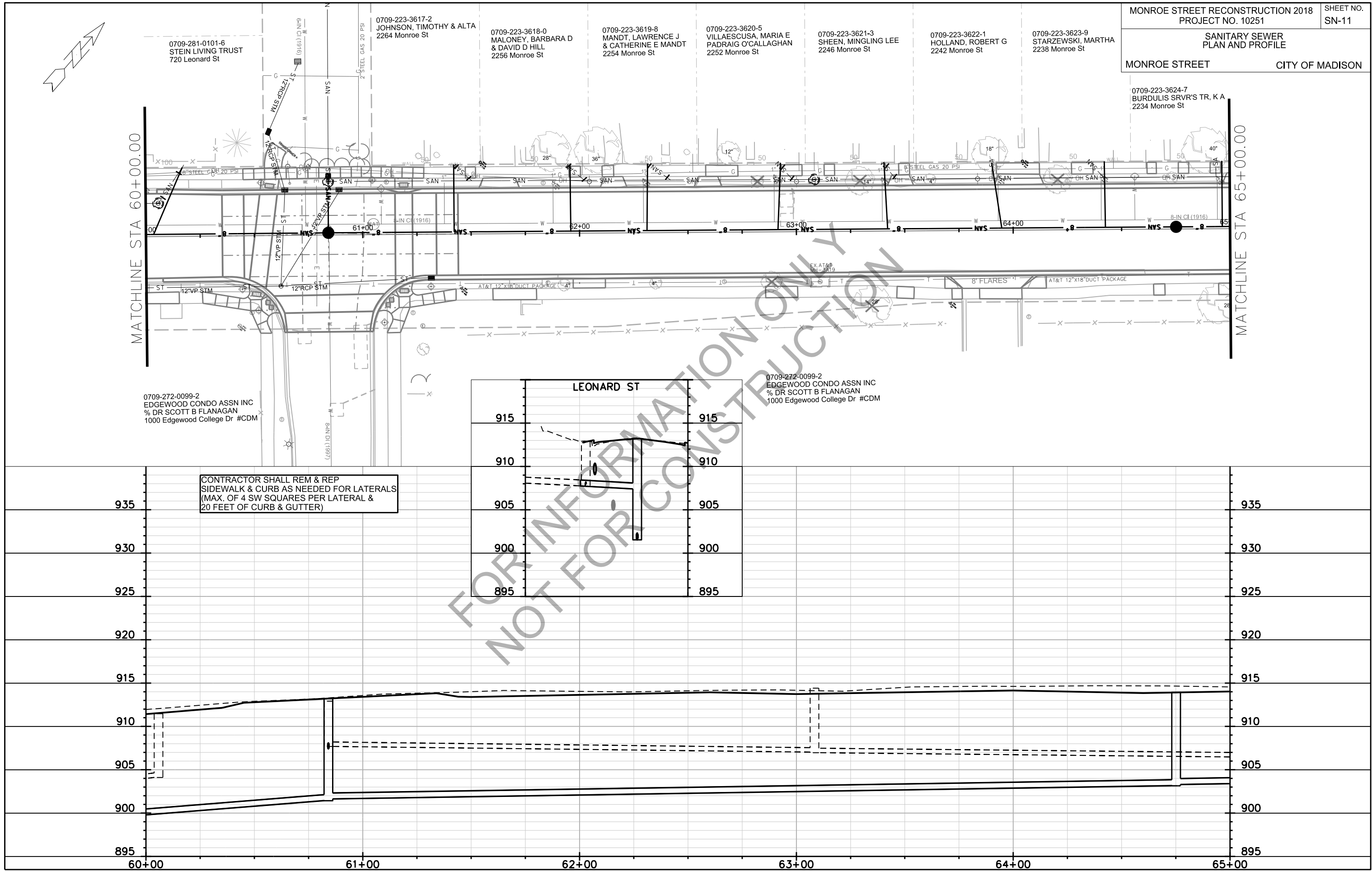
REV. DATE: \_\_\_\_\_

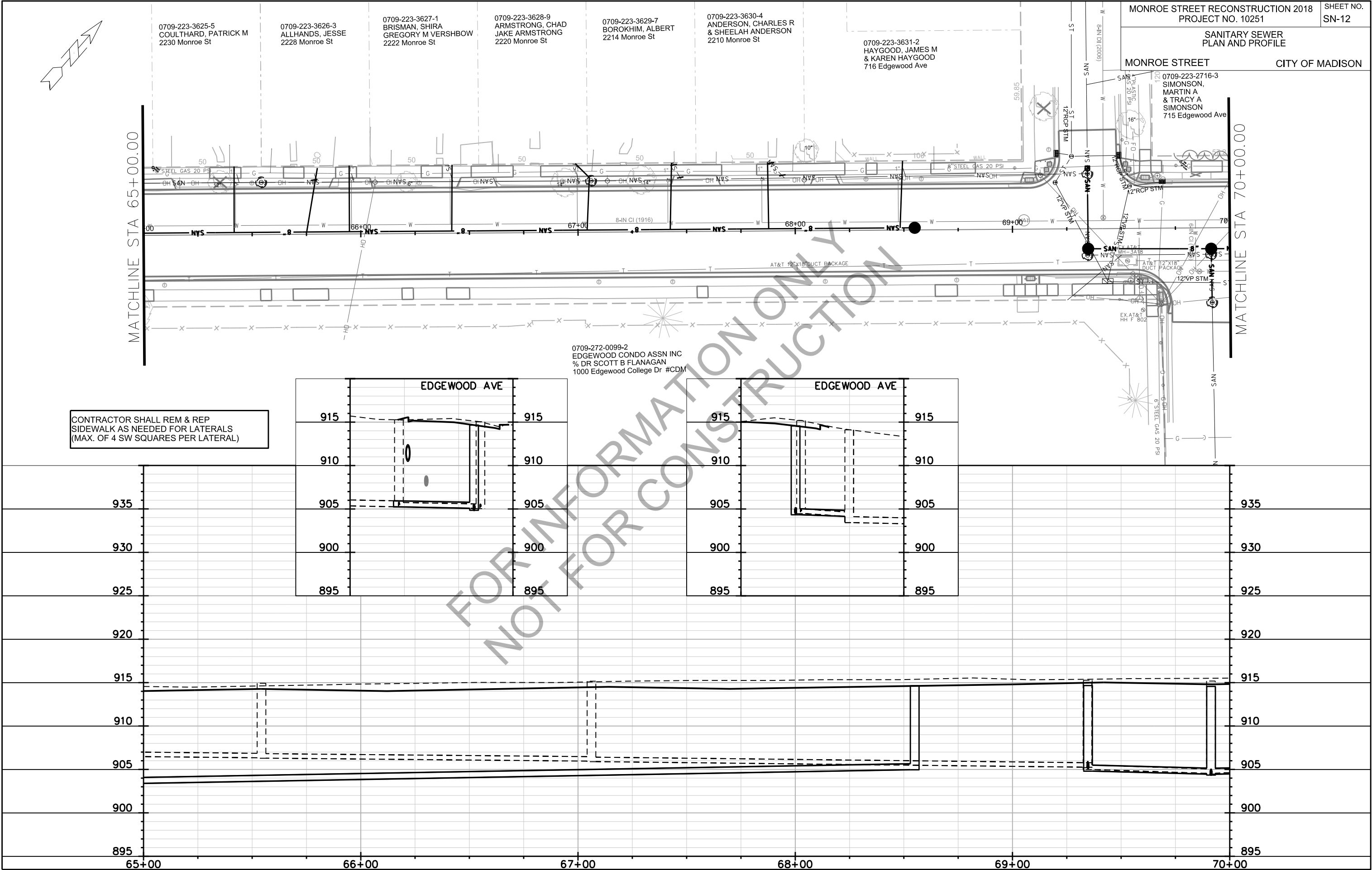
ORIGINATOR: CITY OF MADISON, STREETS DIVISION









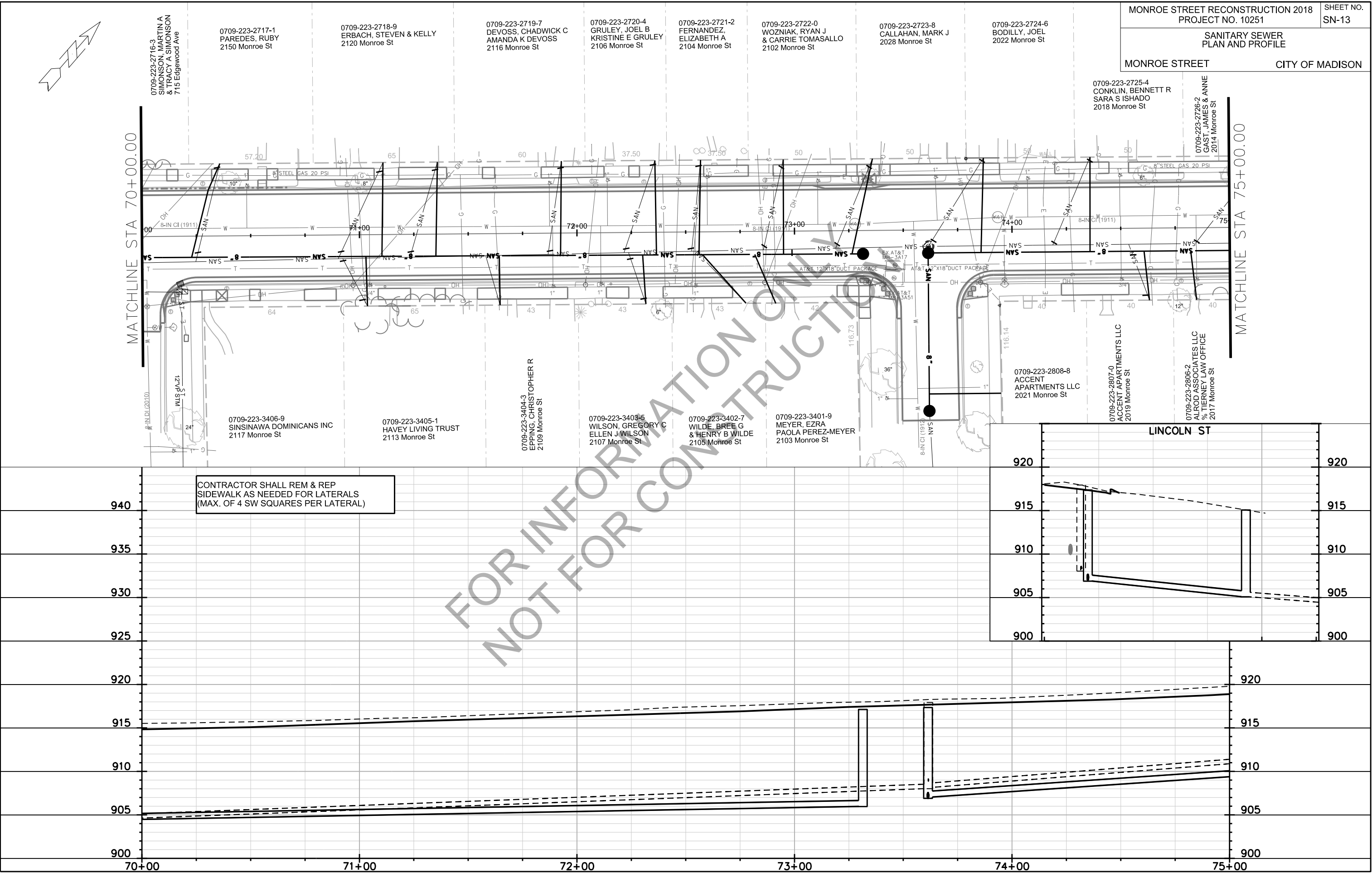


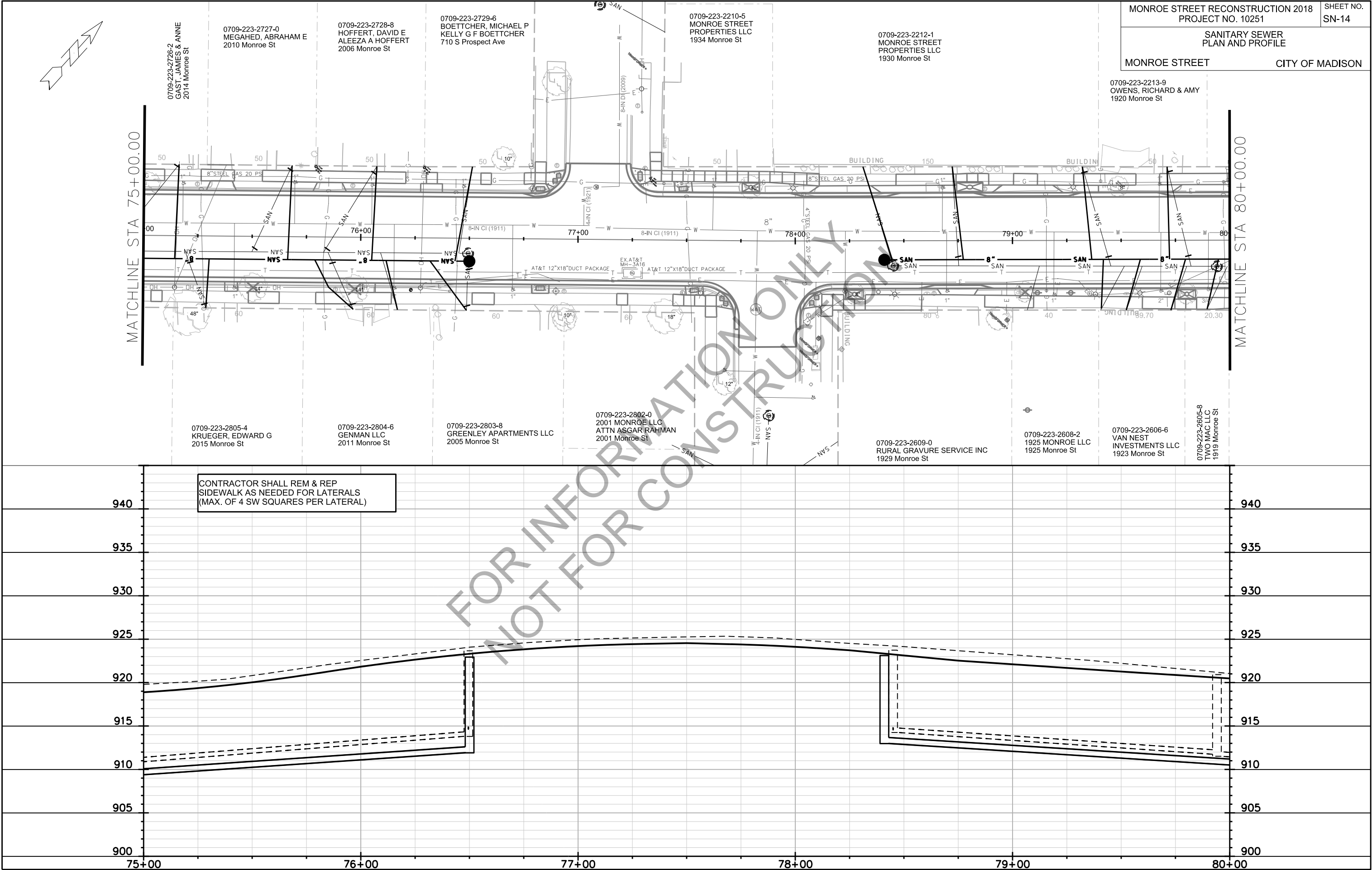
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ORIGINATOR: CITY OF MADISON, STREETS DIVISION



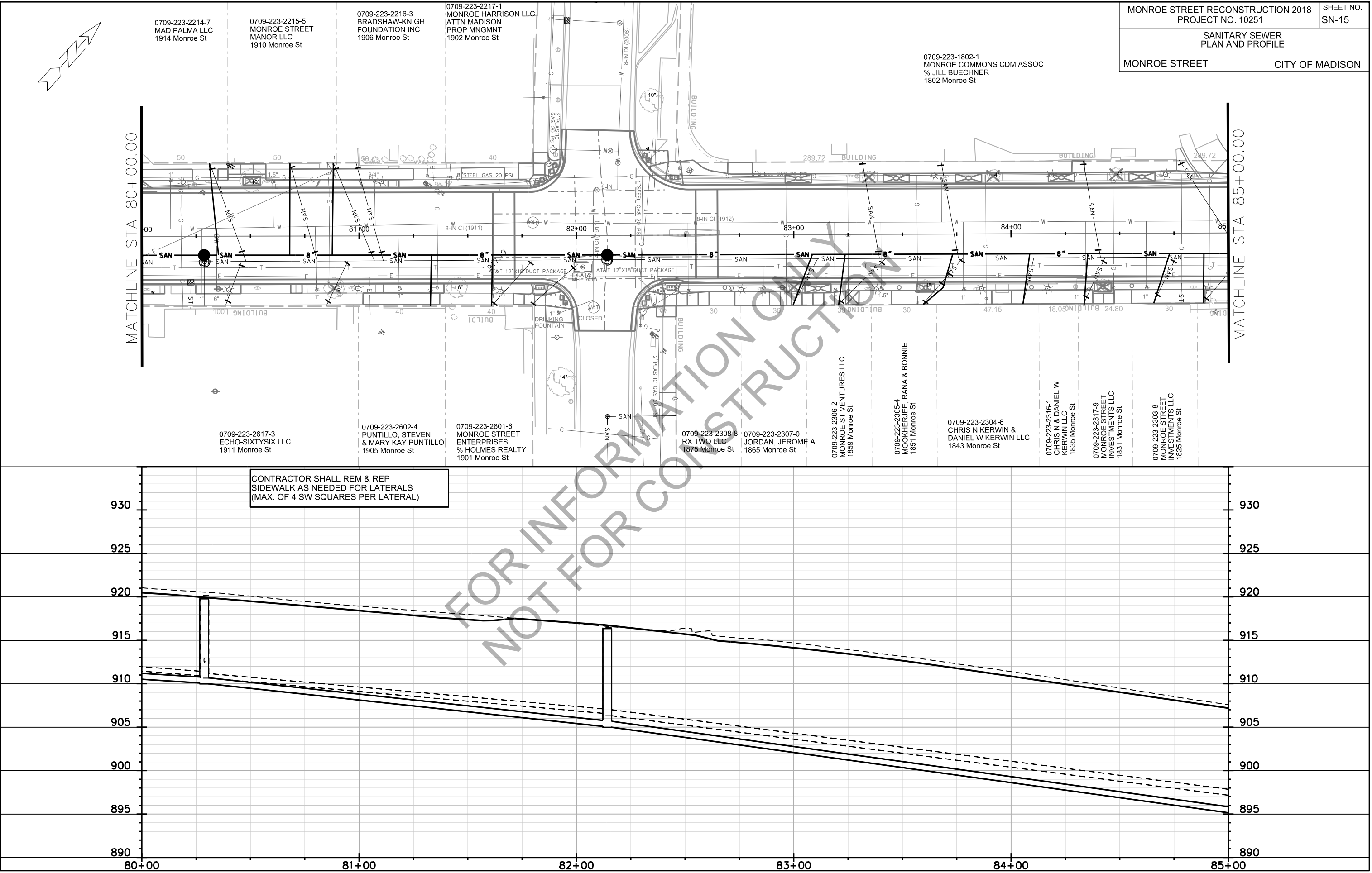


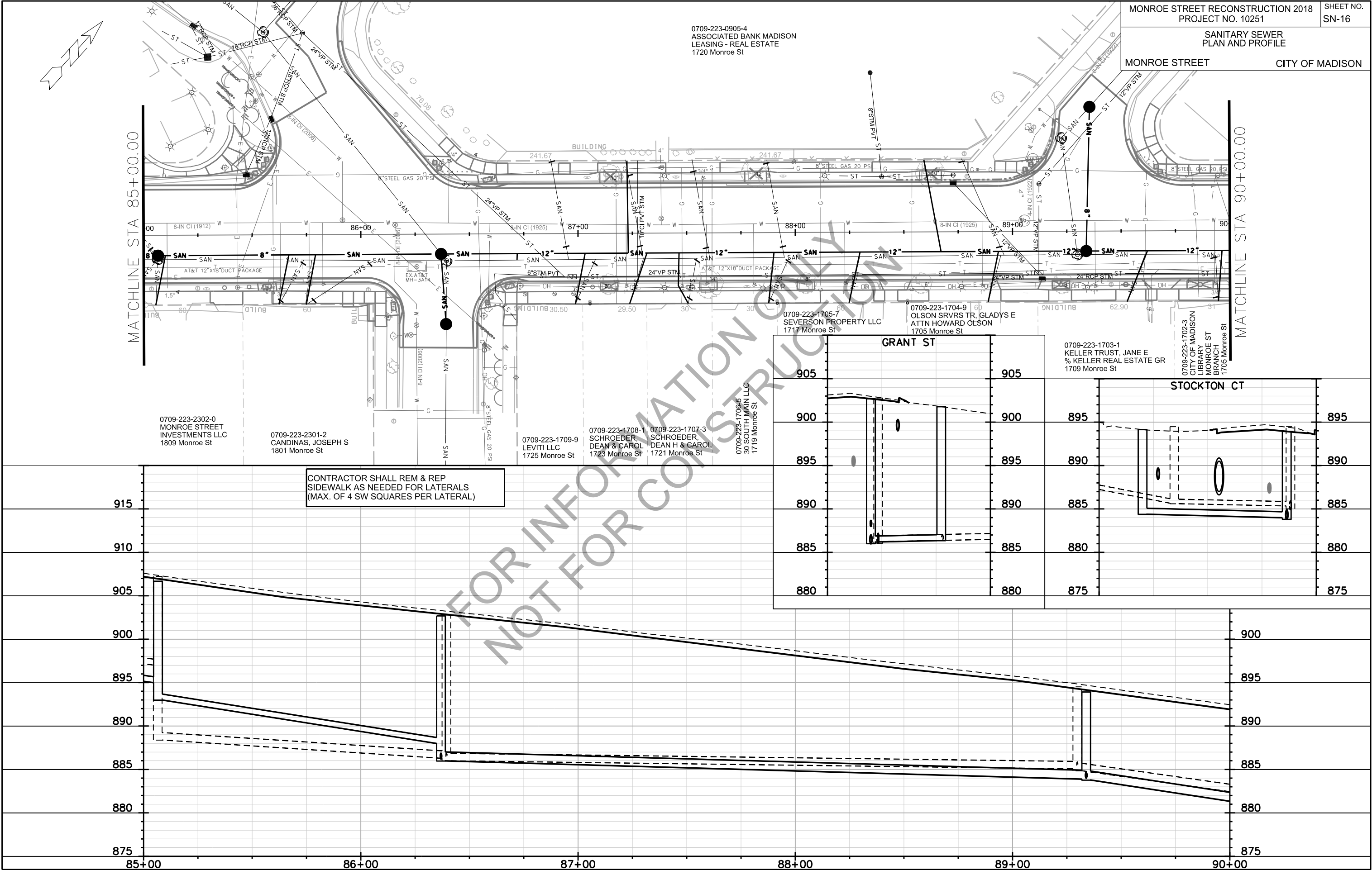
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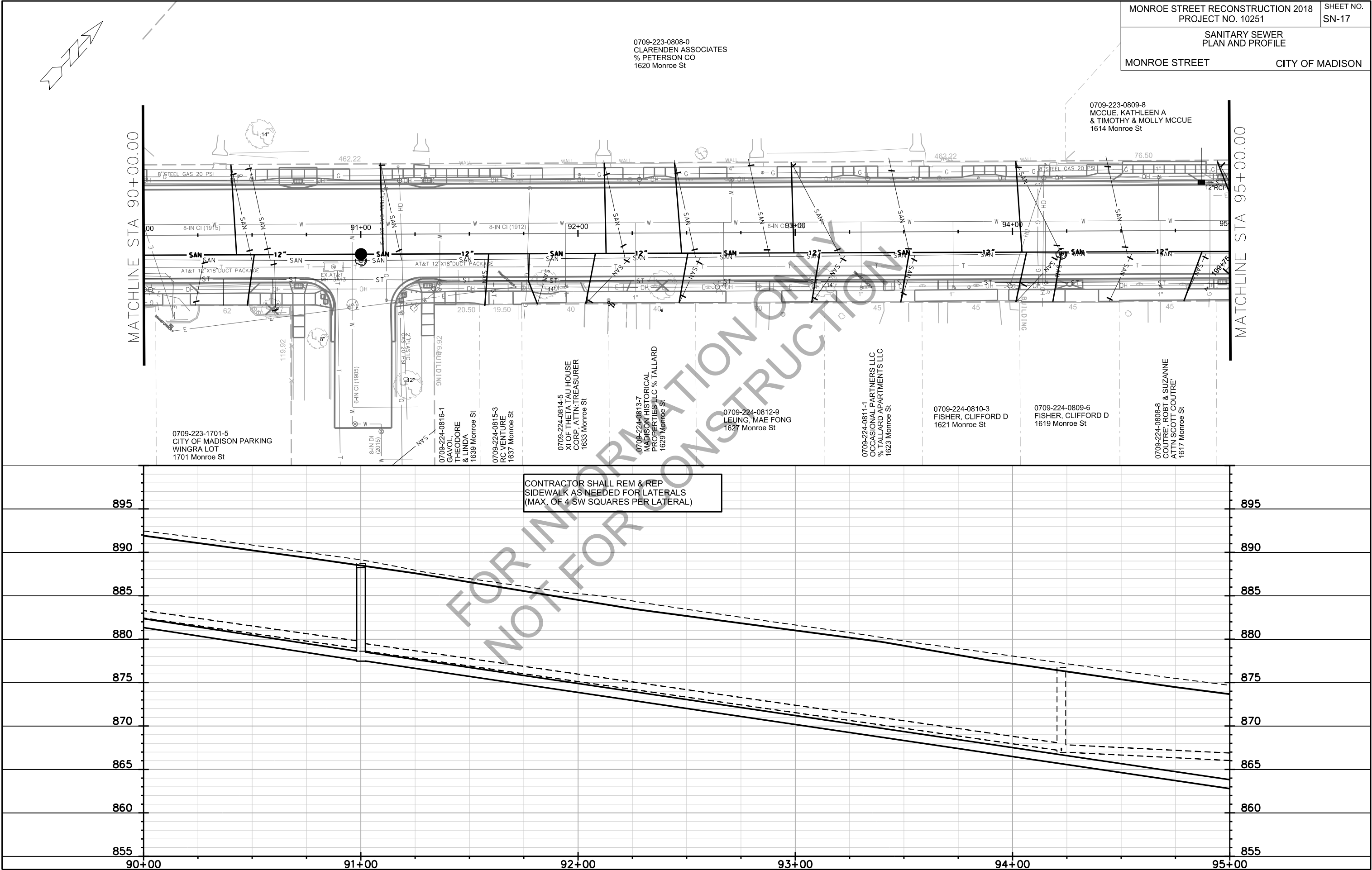


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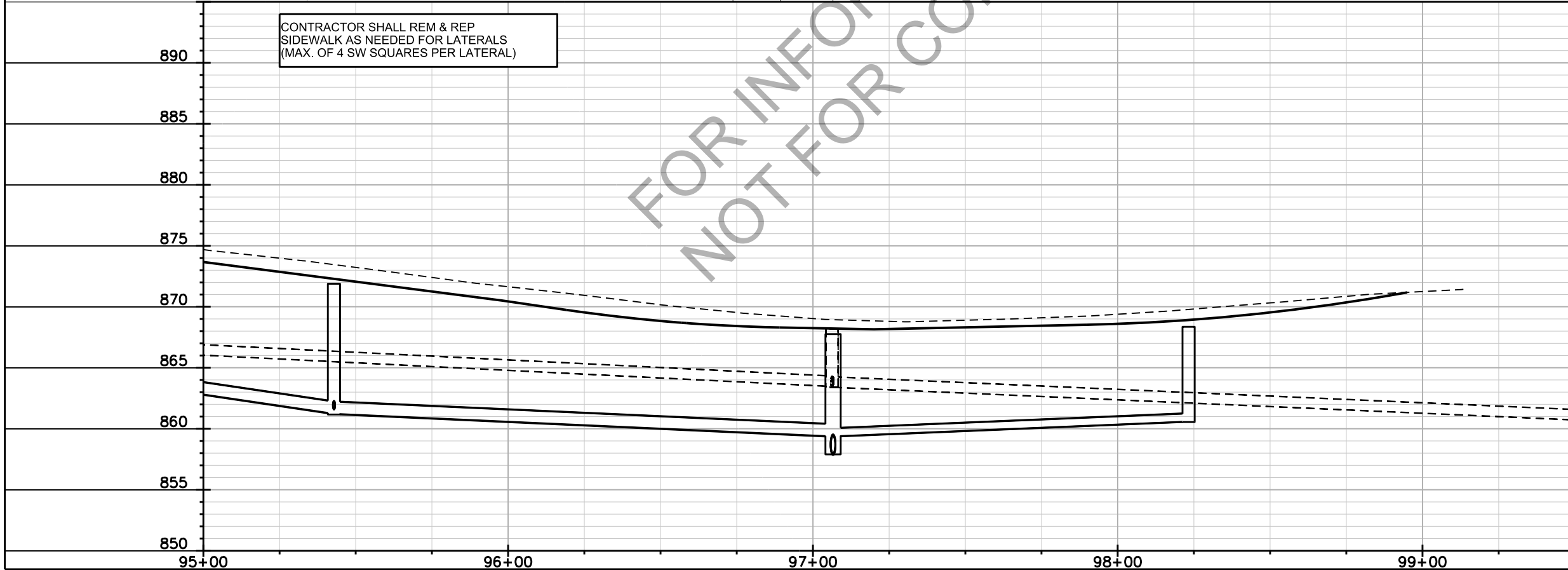
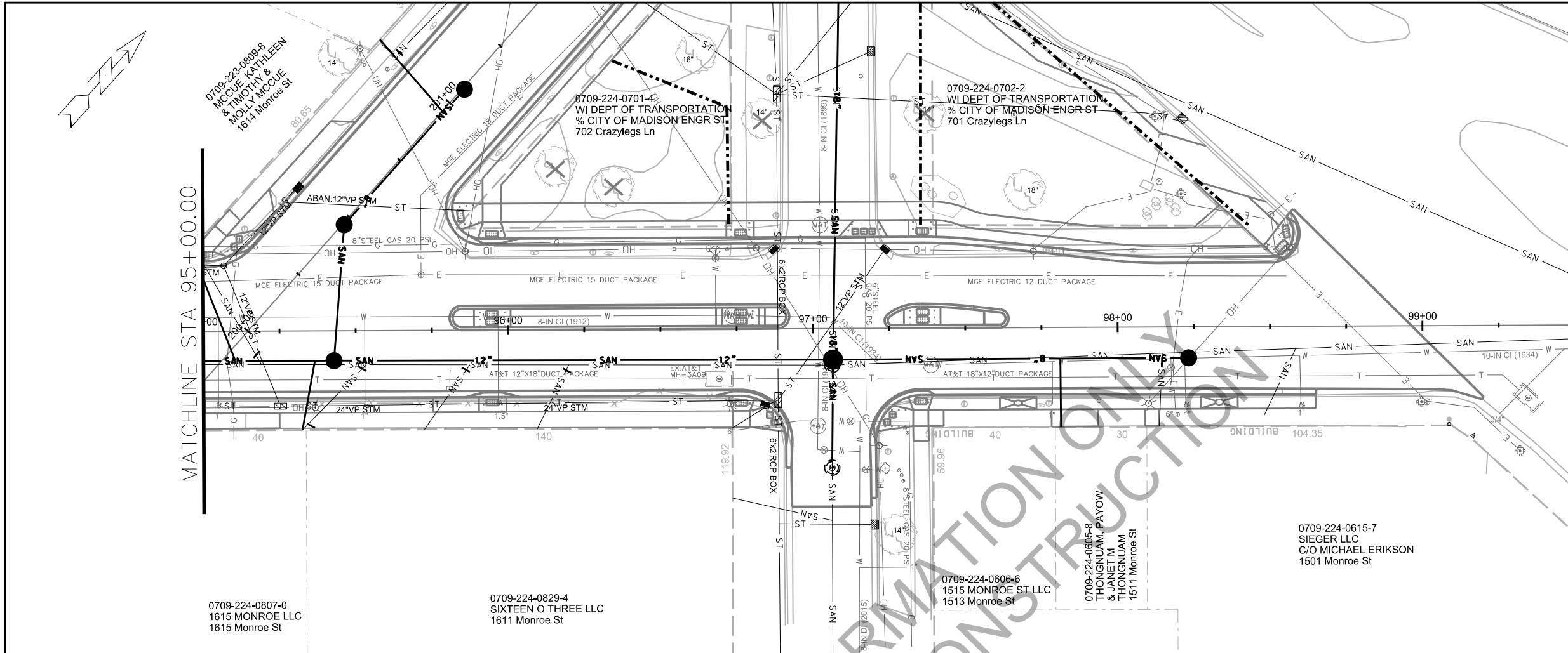
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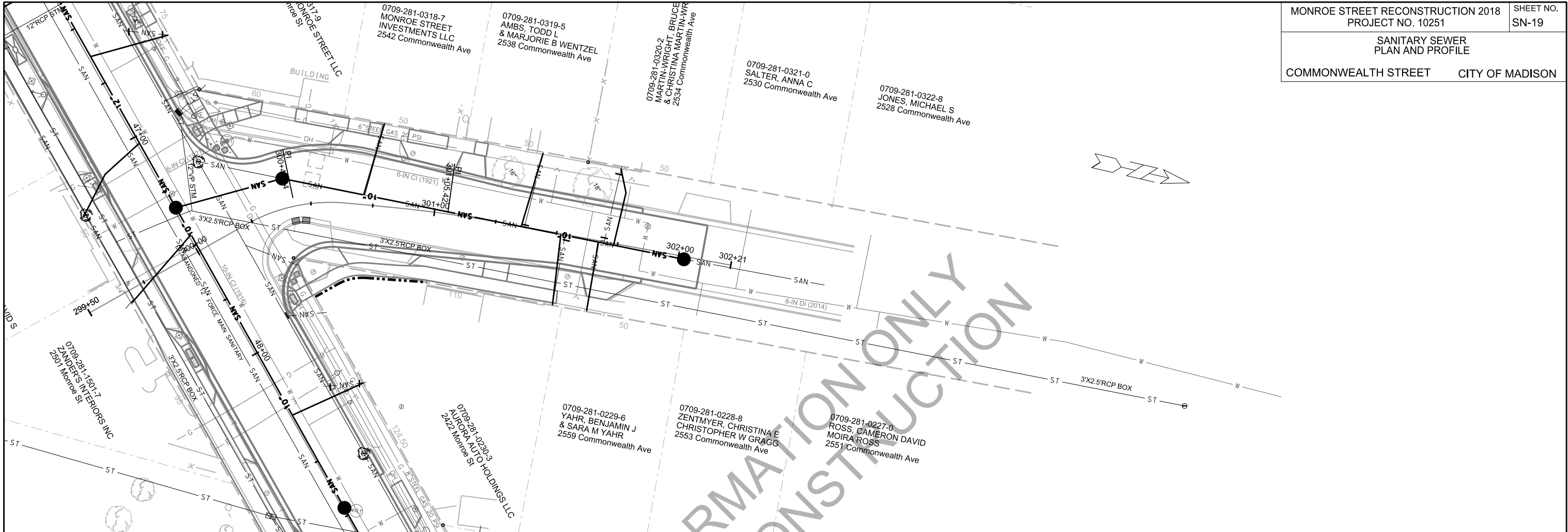
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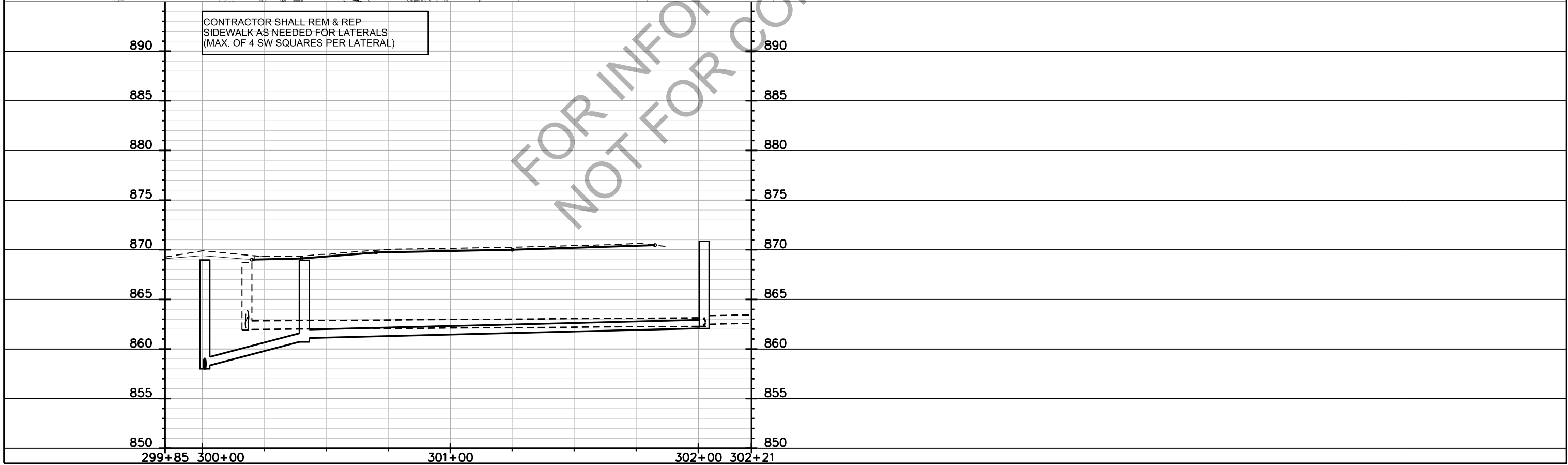


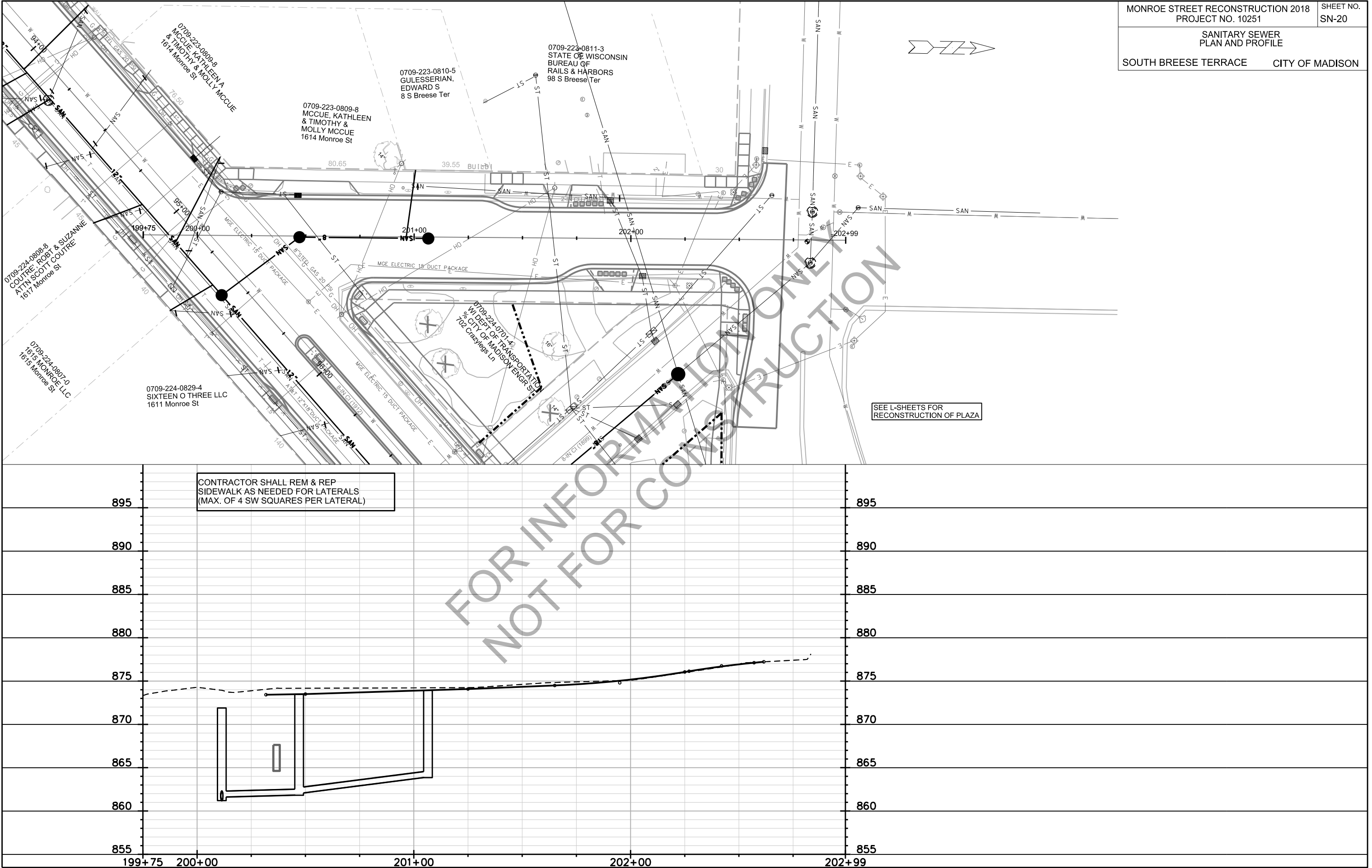


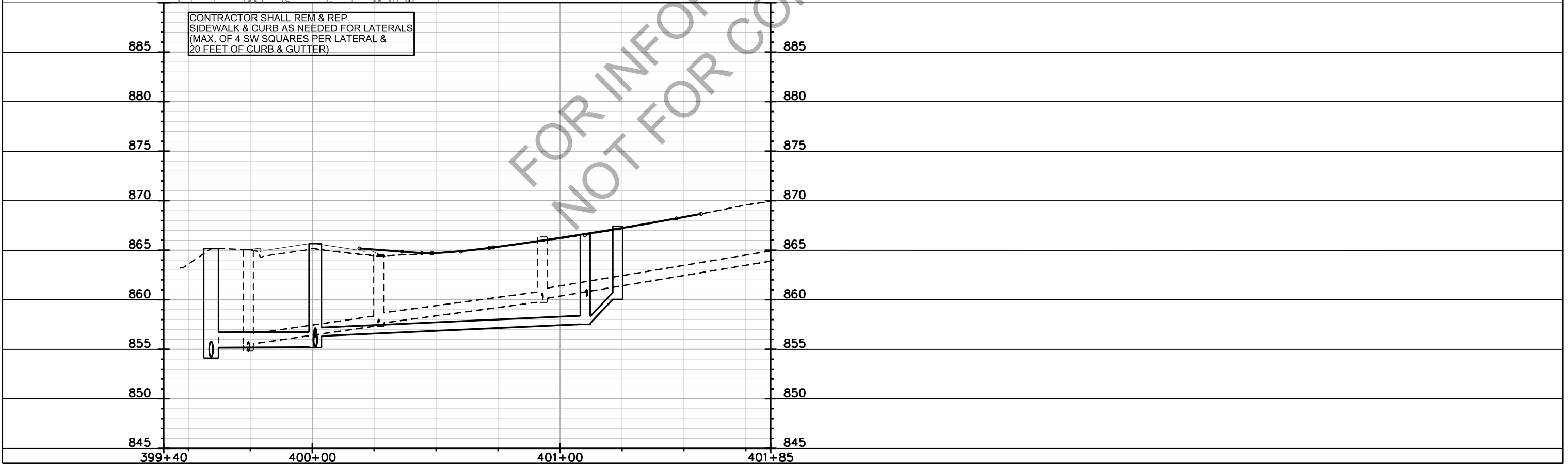
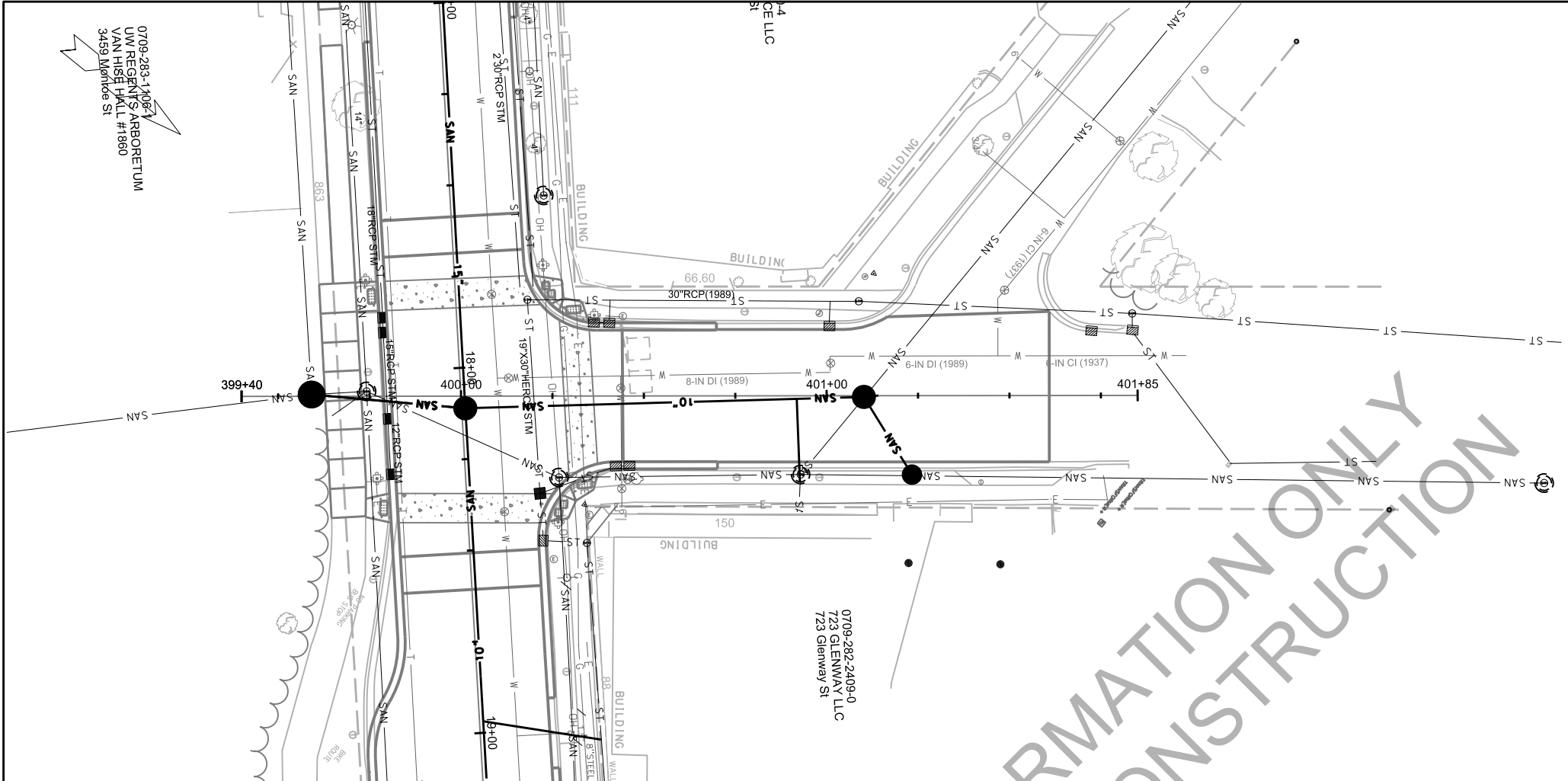


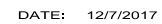


MONROE STREET RECONSTRUCTION 2018 PROJECT NO. 10251		SHEET NO. SN-19
SANITARY SEWER PLAN AND PROFILE		
COMMONWEALTH STREET		CITY OF MADISON



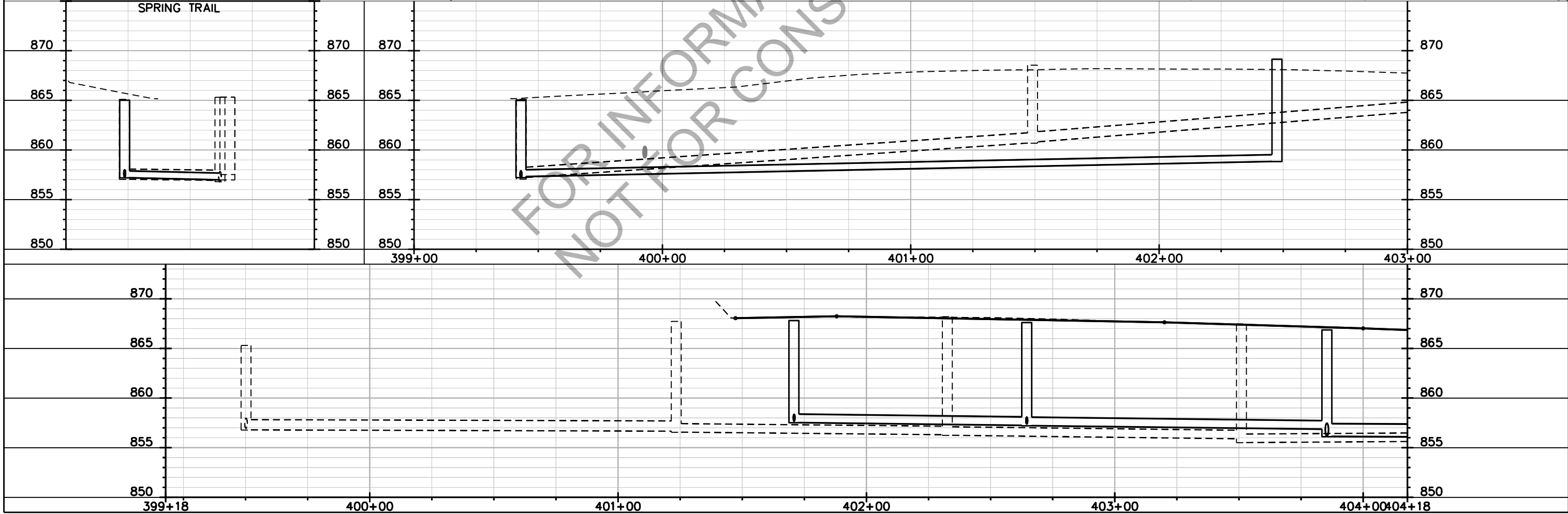
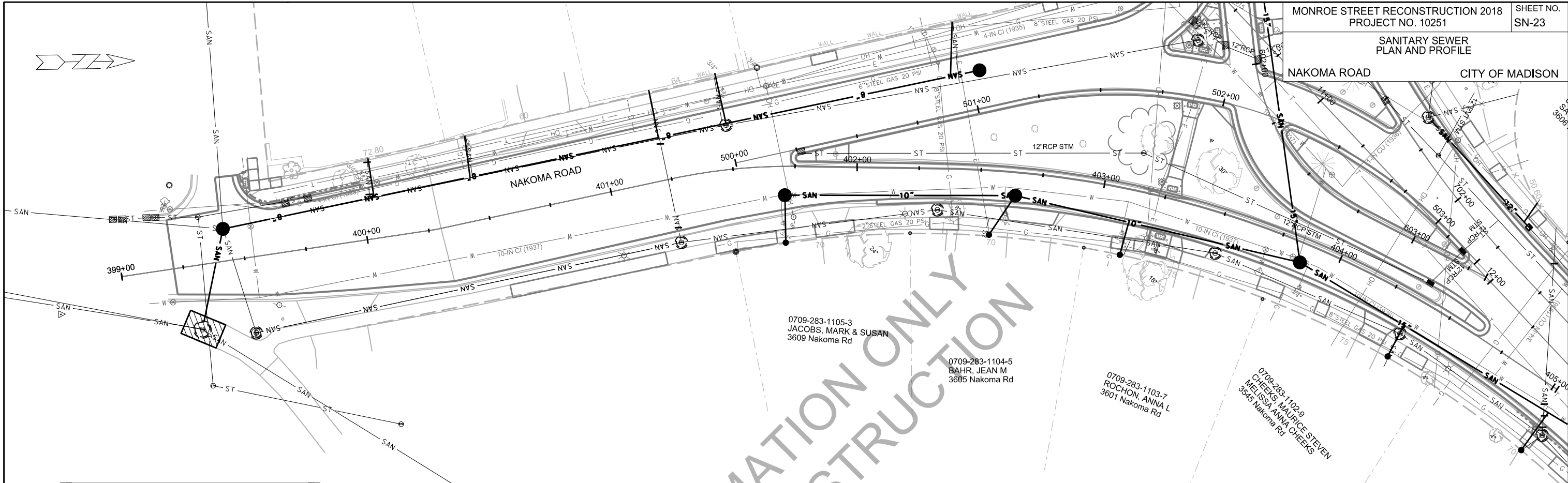






SANITARY SEWER  
PLAN AND PROFILE

NAKOMA ROAD CITY OF MADISON

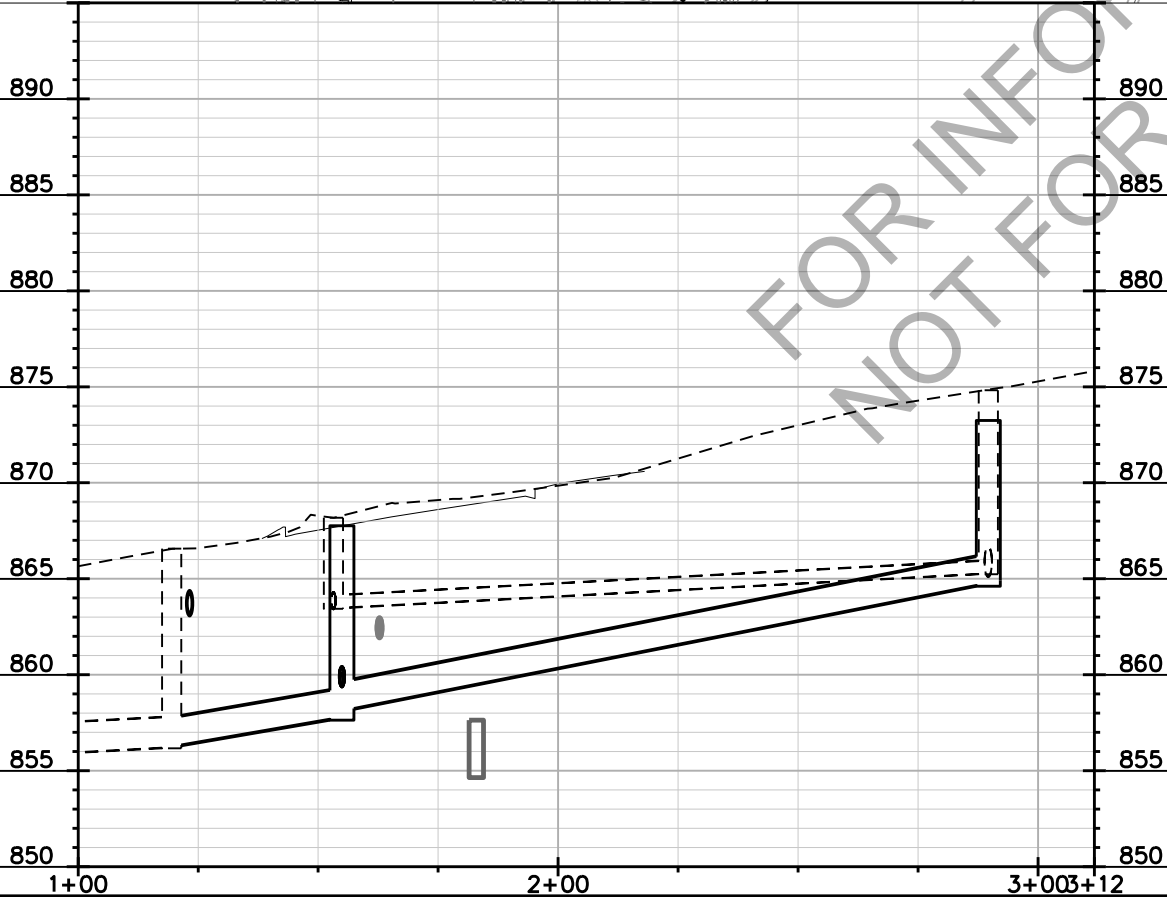
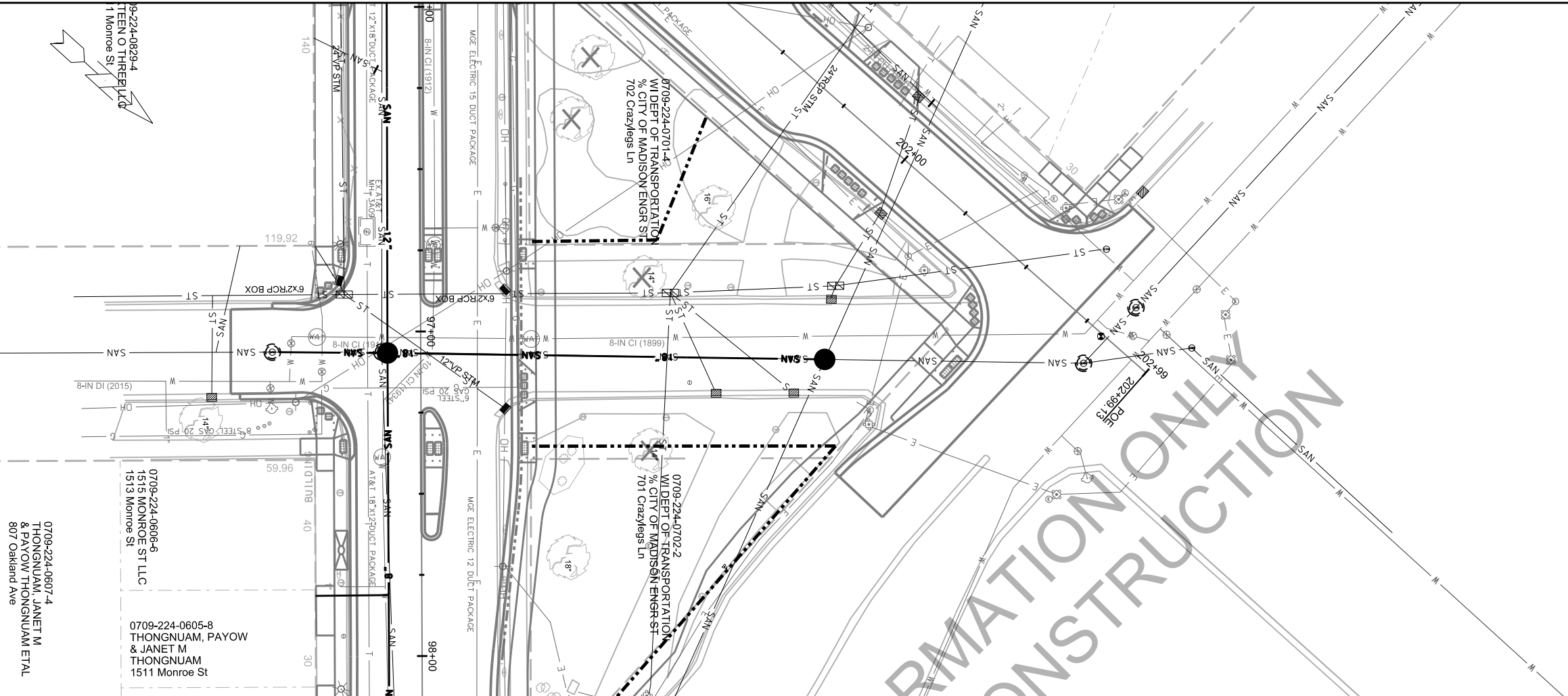


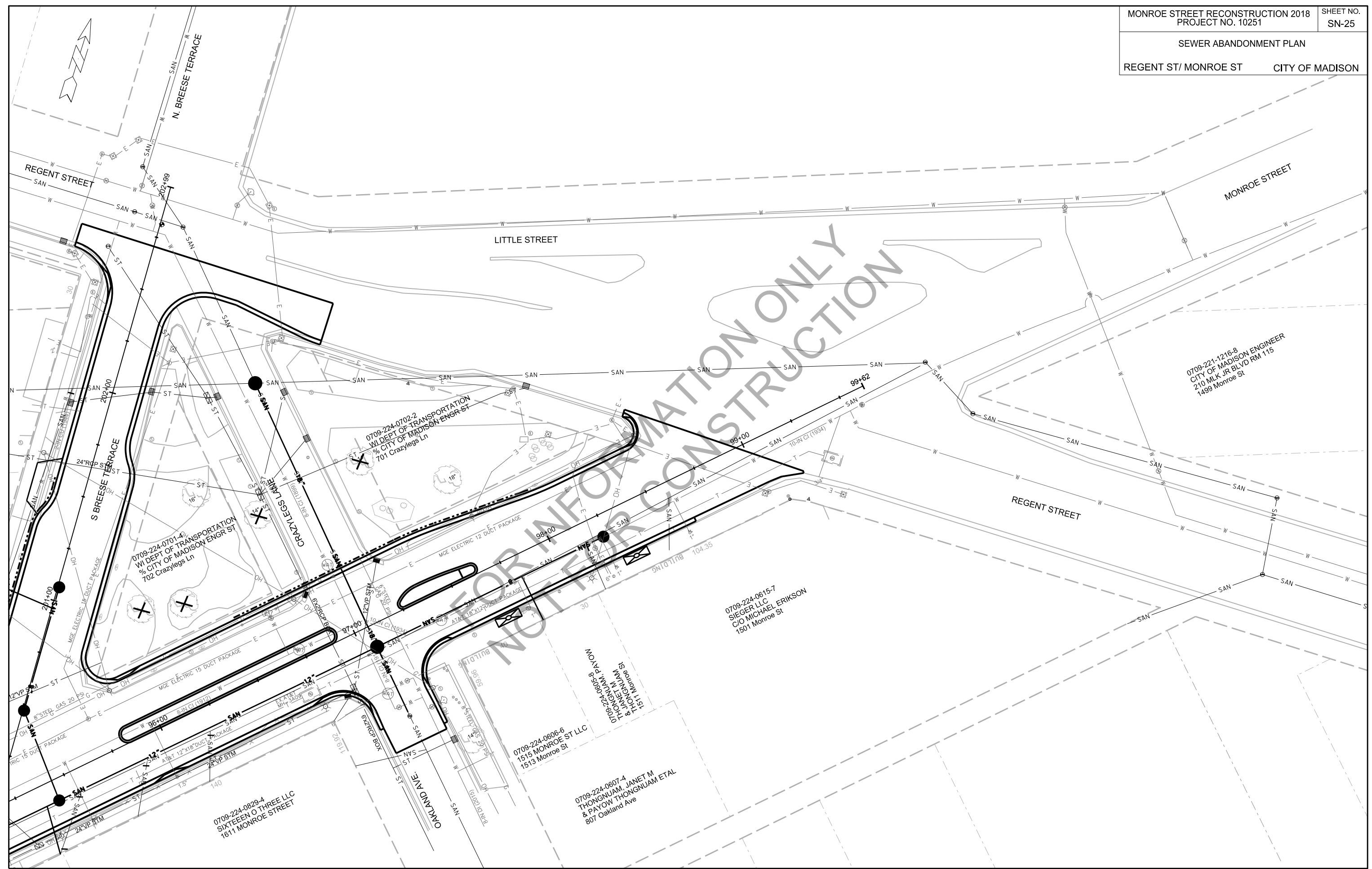
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PLOT NAME: —

REV. DATE: —

ORIGINATOR: CITY OF MADISON, STREETS DIVISION









Department of Public Works  
**Engineering Division**  
Robert F. Phillips, P.E., City Engineer

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Kathleen M. Cryan

**Principal Engineer 2**

Christopher J. Petykowski, P.E.  
John S. Fahrney, P.E.

**Principal Engineer 1**

Christina M. Bachmann, P.E.

**Facilities & Sustainability**

Jeanne E. Hoffman, Manager

**Mapping Section Manager**

Eric T. Pederson, P.S.

**Financial Manager**

Steven B. Danner-Rivers

December 14, 2017

**NOTICE OF ADDENDUM  
ADDENDUM NO. 2  
CONTRACT NO. 7974**

**MONROE STREET ASSESSEMENT DISTRICT - 2018**

Revise and amend the contract document(s) for the above project as stated in this addendum, otherwise, the original document shall remain in effect.

**SPECIAL PROVISIONS:**

**ADD TO SECTION 105.12 COOPERATION BY THE CONTRACTOR:**

It is expected that archeologist oversight will be required at various locations within the project limits as part of the WRAPP, which will be obtained by the City prior to work. The Contractor shall coordinate work and scheduling the Archeologist, who will be contracted separately by the City, for review of the work in the required locations.

**REMOVE FROM SECTION 108.2 PERMITS**

The City of Madison has obtained a City of Madison Erosion Control Permit and has submitted a DNR WRAPP Water Resources Application for Project Permit (formerly known as Notice of Intent (NOI)) to obtain coverage under a Construction Site General Permit.

The Contractor shall meet the conditions of the permits by properly installing and maintaining the erosion control measures shown on the plans, specified in these Special Provisions, or as directed by the Construction Engineer or his designees. This work will be paid for under the appropriate contract bid items or, if appropriate items are not included in the contract, shall be paid for as Extra Work. A copy of the permit is available at the City of Madison, Engineering Division office.

**INSERT INTO SECTION 108.2 PERMITS**

The City of Madison will apply for and obtain a City of Madison Erosion Control Permit and a DNR WRAPP, Water Resources Application for Project Permit (formerly known as Notice of Intent (NOI)), to obtain coverage under a Construction Site General Permit. These permits will be obtained prior to construction.

The Contractor shall meet the conditions of the permits by properly installing and maintaining the erosion control measures shown on the plans, specified in these Special Provisions, or as directed by the Construction Engineer or his designees. This work will be paid for under the appropriate contract bid items or, if appropriate items are not included in the contract, shall be paid for as Extra Work. Copies of the permits will be made available at the preconstruction meeting.

**ADD TO SECTION 109.2 PROSECUTION OF WORK:**

If work continues beyond the stated completion date and cannot be completed before weather prevents work from proceeding further, the Contractor, at their cost, shall place temporary items as necessary to restore all lanes of traffic and open all intersections prior to leaving the site for the winter; this includes, as necessary, all temporary pavement, temporary pavement markings, maintenance of temporary signal & lighting poles, temporary sidewalk, bus pads and driveway aprons. If the curb and gutter has not been completed in some areas, the Contractor shall install a raised edge on any temporary pavement. If the pavement is binder only, Contractor shall install additional ramping along the curb edge and all manholes and inlets in order to provide gradual change of grade up to those elements to allow for plowing during winter without damage to newly installed items. Any damages that result during winter due to the final surface not being placed shall be repaired at the Contractor's expense. Contractor shall also ramp or install & maintain PVC drains in any low point areas where the edge of gutter is above the edge of pavement. Work shall then proceed immediately the following spring to complete the remaining items. Removal of temporary items shall be incidental to the installation of the temporary items.

**REMOVE SECTION 109.9 LIQUIDATED DAMAGES**

**INSERT SECTION 109.9 LIQUIDATED DAMAGES:**

The fixed, agreed, and liquidated damages due the City from the Contractor for failure to complete all work at either location with a specified interim completion date shall be \$1,500 per calendar day, per location. If all work is not completed at both locations by the interim completion dates, the amounts shall be summed for a total of \$3,000 per day.

The fixed, agreed, and liquidated damages due the City from the Contractor for failure to complete all work within the specified timeframe shall be \$3,000 per calendar day.

If the Contractor fails to complete all work by the completion date, the fixed, agreed and liquidated damages due to the City from the Contractor will be paid per the stated rate per calendar day until December 1, 2018. Following December 1, the damages due will be paid at the same rate per **working day** until such time that the work can no longer proceed due to weather. Once work commences the following spring, the fixed, agreed and liquidated damages will again be paid at the stated rate per calendar day.

**ADD TO SECTION 210.1(d) STREET SWEEPING**

Sweepers used on site to meet the requirements of this specification shall have the ability to collect debris, and pre-wet the pavement. Pre-wetting may be accomplished by a separate piece of equipment at the contractor's option. Equipment that simply brooms material into the air or directs it toward the terrace without physical collection of material shall not be considered adequate.

**ADD TO BID ITEM 40203 - HMA PAVEMENT TYPE E-3:**

As opposed to ramping the asphalt in low point areas to drain when only the bind layer of pavement has been installed, the Contractor may install a 2" PVC pipe, per S.D.D. 5.7.7A, to drain the pavement area low points to prevent water from ponding on the pavement while the edge of gutter is higher than the pavement edge. Prior to surface paving, fill all PVC drains with concrete, asphalt or mortar, as directed. Installation of the PVC drain shall be considered incidental to this item.

Where only a portion of the width of the roadway has been paved, either binder only or with surface, the Contractor shall saw cut the exposed edge of the pavement to provide a clean edge prior to paving the adjacent lanes. It is assumed that this will be required for the length of the project, but the final locations

of this required saw cut shall be determined the Construction Engineer.

**MODIFY ARTICLE 500 SEWER AND SEWER STRUCTURES GENERAL:**

***ADD TO SANITARY SEWER GENERAL:***

A Sanitary Sewer Tap shall include the connection of an existing lateral or main to a new structure. A coupling (SDD 5.3.3) shall be provided and used by the Contractor to connect the existing pipe to any new pipe that is required to make the connection to the structure as detailed in Standard Detail Drawing 5.7.31, Flexible pipe connection to SAS connector. Any new pipe required to complete the sanitary taps shall be considered incidental to the Sanitary Sewer Tap (Bid Item 50791). Downstream pipe connections are included with Sewer Access Structure and not paid for as a sanitary tap. If a proposed sewer access structure is smaller than the existing structure being replaced, additional pipe used to connect to the existing sanitary sewer shall be considered incidental to the Sewer Access Structure.

***REMOVE FROM STORM SEWER AND STRUCTURES GENERAL:***

Storm sewer pipe work shall include the installation of approximately 8950 feet of new storm sewer of various sizes and types.

***INSERT INTO STORM SEWER AND STRUCTURES GENERAL***

Storm sewer pipe work shall include the installation of approximately 9325 feet of storm sewer of various sizes and types.

**ADD TO BID ITEM 50801 – UTILITY LINE OPENING (ULO):**

The proposal contains an estimated quantity of ULOs. Additional ULOs may be required, or a quantity of ULOs may be deemed unnecessary, and, therefore, not performed. No change in price will be allowed for a change in quantities of ULOs.

**ADD SECTION 704.3.5 FURNISH & INSTALL PIPE & FITTINGS – BASIS OF PAYMENT**

(5) Contaminated soil and/or groundwater at water main depth is expected on Monroe Street at Lewis Court, Knickerbocker Street and Commonwealth Avenue. Plan sheets W-34, W-35 and W-36 show the expected areas of contamination and the required protective measures for proposed water main. Expect to install at least twelve clay trench plugs, one at each end of the extent of contamination. For any other areas where contamination is encountered, install clay trench plugs and fluorocarbon and/or nitrile gaskets where directed by the Engineer. Madison Water Utility will supply the required fluorocarbon and/or nitrile gaskets and will plug the weep holes on any hydrants within the limits of any contamination. Clay trench plugs will be compensated under special bid item 90092.

**ADD TO BID ITEM 90034 - CONCRETE SEATWALL ON CONCRETE SLAB:**

The adjacent 7-inch concrete sidewalk shall be thickened per the details under the Concrete Seatwall on Concrete Slab. The thickening of the underlying concrete shall be considered incidental to the 7" Concrete Sidewalk, and will be paid under that bid item.

**ADD BID ITEM 90036 - CONCRETE SEATWALL:**

All work under this bid item shall be completed per the special provisions for Bid Item 90034 Concrete Seatwall on Concrete Slab and per Bid Item 90035 Concrete Seatwall with Back.

**ADD TO BID ITEM 90060 - ASPHALT REJUVENATOR:**

If conditions prevent the rejuvenator from being placed per the manufacturer's requirements immediately following the installation of the asphalt pavement during the contract timeframe, the Contractor may

install the rejuvenator the following spring, once the conditions are suitable. All work to prepare the pavement for placement of the rejuvenator per the manufacturer's requirements shall be considered incidental to this bid item, which may include cleaning of the pavement or removal and replacement of pavement markings.

**REMOVE BID ITEM 90066 – 8' x 4' RCP 45 DEGREES PRECAST BEND**

**INSERT BID ITEM 90066 – 8' x 4' RCB ASTM C-1433 45 DEGREES PRECAST BEND**

*DESCRIPTION*

Where shown on the drawings, the Contractor shall provide an 8' x 4' RCB 45 Degree Precast Bend that meets ASTM C-1433 specifications. Field poured bends will not be an approved alternative for this bid item.

Where precast sections are combined to form a precast bend, adequate reinforcing from each section shall be exposed and tied together. A reinforced concrete collar shall then be provided around the entire perimeter of this joint. Collar shall be sized to provide a minimum of 2-inch coverage over all reinforcing and strength equivalent to the rest of the pipe section. The interior of the joint shall be finished smooth to match the interior of adjoining surfaces. Where the existing 8' x 3' storm box is connected to the proposed 8' x 4' RCB bend, the connection should match crowns and a field poured concrete wedge shall be provided at the bottom of the connection with #4 L bars spaced 12" center to center with a 6" separation from the inside of the RCB bend wall. A reinforced concrete collar shall be provided around the entire perimeter of this connection.

*METHOD OF MEASUREMENT*

8' x 4' RCB ASTM C-1433 45 Degrees Precast Bend shall be measured as each for the individual or multiple precast bend sections that are provided to the job site. Payment for installation is under bid item 90070.

*BASIS OF PAYMENT*

8' x 4' RCB ASTM C-1433 45 Degrees Precast Bend shall be paid for according to the unit price bid. Price bid shall include all materials, labor and equipment necessary to procure and provide the material to the job site.

**ADD TO BID ITEM 90067 – 7' X 7' STORM SAS**

*UNDER DESCRIPTION*

Roof reinforcement shall be installed approximately 3" clear from edges.  
Diagonal bars around the roof cutouts shall be #4 bars.

**MODIFY BID ITEM 90070 – 8' X 4' ASTM - C-1433 BOX CULVERT- INSTALLATION**

*UNDER DESCRIPTION*

*ADD:* Procurement of bends shall be paid under bid item 90066. Installation of provided bend(s) is included with this bid item.

*REMOVE:* 3) Those portions of the box culvert under the pavement structure backfill shall be in accord with SDD 5.2.1 & SDD 5.2.2. Provision and placement of backfill is included in the price of this bid item.

*INSERT:* 3) backfill shall be in accordance with SDD 5.2.1 & SDD 5.2.2. Provision and placement of

backfill is included in the price of this bid item.

## **MODIFY BID ITEM 90071 – STORM CONTROL PLAN & IMPLEMENTATION**

### *UNDER DESCRIPTION*

*REMOVE 1<sup>ST</sup> SENTENCE:* Work under this item shall include all work, materials, equipment, and incidentals required to control dry and wet weather flow in the storm sewer system during the reconstruction project.

*REPLACE WITH:* Work under this item shall include all work, materials, equipment, and incidentals required to control back water, dry and wet weather flow in the storm sewer system during the reconstruction project.

## **REMOVE BID ITEM 90073 – 3'X6' STORM SAS**

## **ADD TO BID ITEM 90083 and 90084 - WASTEWATER CONTROL-CITY, MMSD**

Contractor may be allowed to trench in by-passes as necessary for wastewater control as no above ground pipes will be allowed to cross lanes open to traffic. If the Contractor places the by-pass piping under the pavement or sidewalk, the Contractor shall patch the pavement or sidewalk as directed. Patching of by-pass trenches shall be considered incidental to this bid item.

## **ADD TO BID ITEM 90079 – PRECAST CONCRETE SIDEWALK PANEL**

The precast concrete sidewalk panel shall have a minimum thickness of 6".

## **ADD BID ITEM 90092 – CLAY TRENCH PLUG**

### *Description*

This work consists of furnishing and installing clay trench plugs as specified below and as shown in the Standard Detail Drawing 7.23.

### *Materials*

Use select clay fill classified as CL or CH according to the Unified Soil Classification System. Allow a maximum clump size of 6 inches capable of being broken down with normal construction equipment to a size of 2 to 3 inches prior to compaction. Fifty percent or more of the soil particles by weight must pass the Number 200 sieve. Allow no rocks, stones, sticks, or other foreign objects greater than 2 inches.

### *Construction*

Construct per Standard Detail 7.23. Maintain proper moisture content to achieve specified compaction.

Install select clay fill in lift thicknesses as required to obtain the specified levels of compaction. Compact each layer of fill to the degree that no further appreciable consolidation is evidence under the action of the compaction equipment. Compact the material to a dry density of 90 percent of the maximum dry density as determined by the Modified Proctor test, or 95 percent of the Standard Proctor maximum dry density. Meet required compaction for each layer before the succeeding layer is placed. Place overburden material as soon as practical after completion of select clay fill placement to avoid drying and desiccation of select clay fill.

### *Method of Measurement*

Clay Trench Plug shall be measured by each clay trench plug that is acceptably completed.

*Basis of Payment*

Clay Trench Plug shall be paid at the contract unit price, which shall be compensation for work, materials, equipment and incidentals necessary to complete the work as described.

**ADD BID ITEM 90100 – INCENTIVE FOR COMPLETION OF WORK***Description*

This item shall include an incentive payment to the Contractor for completion of all work under this contract prior to 7:00PM on the stated completion date.

No extensions will be granted under any circumstances due to weather or as a result of coordination and/or scheduling with utilities. Per the Cooperation by the Contractor section, it will be the responsibility of the Contractor to coordinate work with all entities to meet the schedule of the project.

The incentive payment shall be paid at the rate of \$3,000 per calendar day for each day or portion thereof, of completion prior to 7:00 P.M. on November 16, 2018. The maximum amount of incentive payment shall not exceed \$45,000.

*Method of Measurement*

Incentive for Completion of Work will be measured by the calendar day and will be paid for at the stated unit price per calendar day.

*Basis of Payment*

The unit price per day shall be compensation in full for completing the work as hereinbefore specified.

**PROPOSAL:**

Several items have revised quantities along with some item removals and additions to the proposal. See below for a summary of items that have been revised. Refer to the proposal for updated quantities.

**ITEMS:**

Action	Bid Item	Description
MODIFY	20303	SAWCUT BITUMINOUS PAVEMENT
MODIFY	20221	TOPSOIL
MODIFY	20313	REMOVE INLET
MODIFY	20314	REMOVE PIPE
MODIFY	20336	PIPE PLUG
MODIFY	20501	ADJUST SEWER ACCESS STRUCTURE
MODIFY	20503	ADJUST INLET
MODIFY	20701	TERRACE SEEDING
MODIFY	20801	SODDING

MODIFY	21063	EROSION MATTING, CLASS I, TYPE A - ORGANIC
MODIFY	50201	ROCK EXCAVATION
MODIFY	50211	SELECT FILL FOR STORM SEWER MAIN
MODIFY	50301	8" PVC SANITARY SEWER PIPE SDR-35/ SDR-26
MODIFY	50302	10" PVC SANITARY SEWER PIPE SDR-35
MODIFY	50357	COMPRESSION COUPLING
MODIFY	50401	12 INCH TYPE I RCP STORM SEWER PIPE
MODIFY	50403	18 INCH TYPE I RCP STORM SEWER PIPE
MODIFY	50410	42 INCH TYPE I RCP STORM SEWER PIPE
ADD	50418	14 INCH X 23 INCH TYPE I HERCP STORM SEWER PIPE
MODIFY	50741	TYPE H INLET
MODIFY	50792	STORM SEWER TAP
MODIFY	50793	PRIVATE STORM SEWER RECONNECT,TYPE 1
REMOVE	70106	ROCK EXCAVATION
MODIFY	90009	TEMPORARY PAVEMENT (UNDISTRIBUTED)
MODIFY DESCRIPTION	90066	8' x 4' RCB ASTM C-1433 45 DEGREES PRECAST BEND
MODIFY	90069	RIGID FRAME INLET PROTECTION-COMPLETE
ADD	90092	CLAY TRENCH PLUG
REMOVE	90073	3'X6' STORM SAS
ADD	90100	INCENTIVE FOR COMPLETION OF WORK

**PLANS:**

Numerous plan sheets have been revised, and, some sections in entirety have been revised. The following is a summary of changes on the plans. Revised sheets for this addendum indicate a revision date of 12-12-17 or 12-13-17.

Title Sheet: Updated sheet index and added storm sewer stamp/signature, and City Engineer signature.

EC1-EC24: Updated sheets to reflect design changes to City utilities, and relocated inlet protection to account for revisions or added inlet protection at locations previously not called out.

ST1-ST23: Updated labels and notes for consistency and legibility. Additional design changes as follows:

ST2: Depth of P-50.1 revised to avoid conflict with telephone. Added additional removals and a private storm connection

ST3: Added P-55C and P-58A

ST4: Revised elevation of P-63A & P-62A to avoid telephone conflict. Added P-65A

ST6: Additional private storm reconnection.

ST7: Additional private storm reconstruction (S-111)

ST8: Relocated S-122A & P-122A. Removed ULO-30

ST-8A: Relocated S-122A & P-122A. P-122A shown in profile.

ST-16: Additional info related to private connection at 1725 Monroe

ST-18: Relocated S-202. Clarified storm to remain. Added RP-77, and updated existing gas & ULO

ST-19: P-122A & S-122A relocated

ST-20: P-254 added to profile

ST-23: Added existing 12" to profile, and P-402 to profile

ST24-ST31: Changes reflected on schedules and indicated with asterisk and bold text

SS1-SS3: Added additional structure dimensions & details. Revised angle of screen, and added adjustment.

RT1-RT2: Revised pipe to 6" PVC, provided more detail. Added a cleanout.

BLT-1 Removed from sheet index and plan set.

BR1-BR4: Bioretention overflow structure and pipes revised and more detail provided. Schedule (BR4) updated to reflect changes in water quality details (SS, RT, and BR sheets).

RG1-RG2 added to plan set.

W1-W22: No changes were made to the proposed water main, but sheets were revised to properly reflect revisions to the storm sewer and sanitary sewer designs.

W34-W36: Added to the plan set. Sheets show locations of required protective measures for water main installed in areas of potential contamination.

E1 & E3: Notes for coordination of loop detector installation added.

E11: Revised to show modified storm sewer and locations relative to proposed electrical items.

### **INFORMATIONAL ITEMS ONLY:**

A list of questions from Contractors and answers, both from the pre-bid meeting and from outside the meeting is included with this addendum for reference purposes.



December 14, 2017

Page 9 of 9

An overall plan of the entire project is also included for reference purposes. This document is only to be used for informational purposes and may not be up-to-date with current plan revisions. The Contractor shall refer to the issued plans for the proposed design.

Supplemental soil borings along some of the side streets are provided.

A sheet with additional information on the MMSD sanitary sewer lines around the Arboretum is also provided.

Engineer's estimate updated to: \$15,710,000

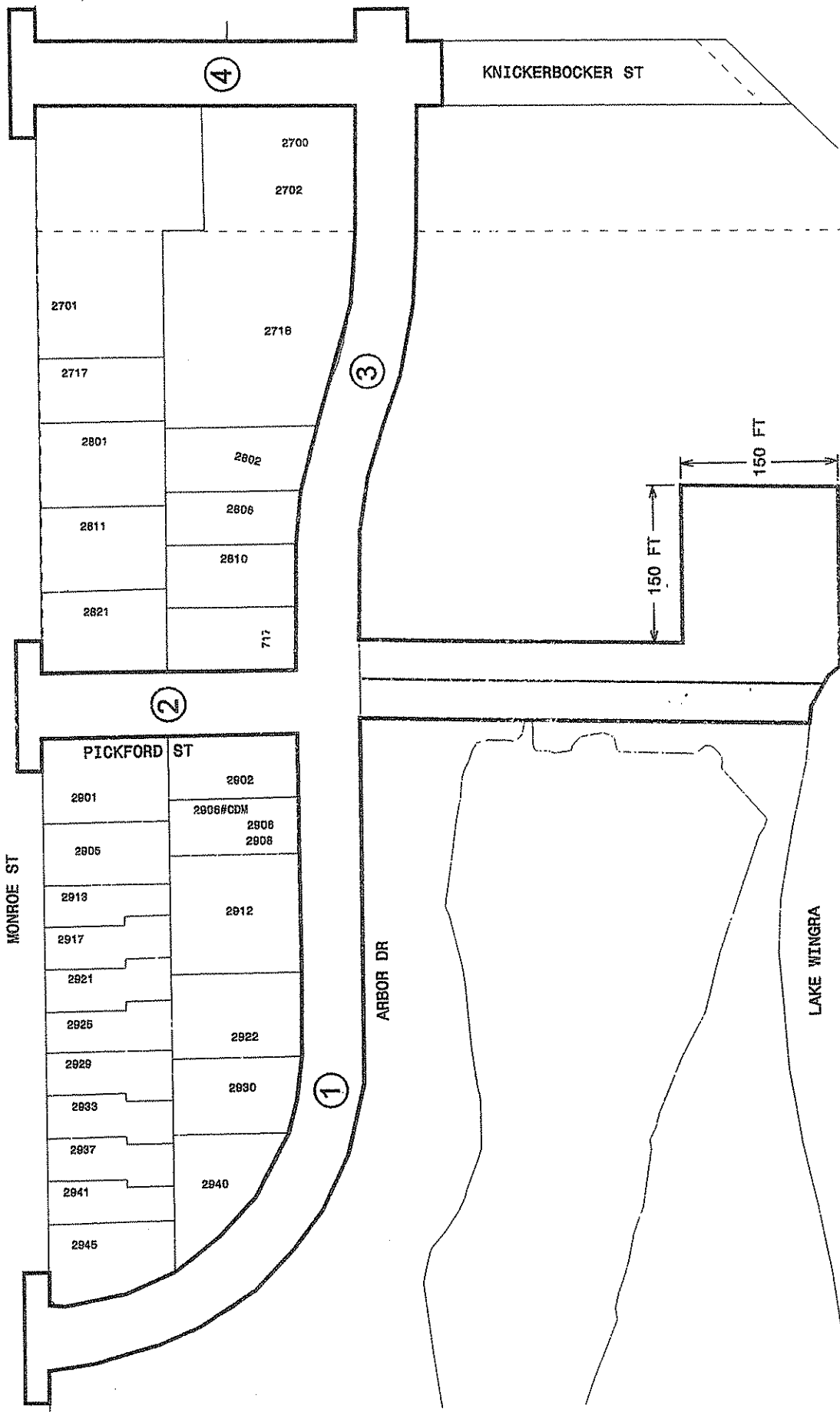
Sincerely,

A handwritten signature in black ink, appearing to read "Robert Phillips", written in a cursive style.

---

Robert F. Phillips, P.E.  
City Engineer

RFP:JMW



Notes

1. Base map provided by City of Madison.
2. Soil borings drilled by Badger State Drilling in December 2007

Legend

- ② Denotes Boring Location

**SOIL BORING LOCATION MAP**

Arbor Drive Area  
Madison, Wisconsin

CGC, Inc.

DWN: -	APP'D: MNS	Date: 1/08	C07022-30
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## LOG OF TEST BORING

Project Arbor Drive Area  
Arbor: 370'SW of Pickford, 7'SE of Centerline  
Location Madison, Wisconsin

Boring No. 1  
Surface Elevation (ft) \_\_\_\_\_  
Job No. C07022-30  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES					
No.	TYPE	Rec (in.)	Moist	N		Depth (ft)	qu (qa) (tsf)	W	LL	PL	LI
						5 in. Asphalt Pavement/6 in. Base Course					
1		16	M	25		FILL: Brown Fine Sand, Some Silt					
						Gray Lean CLAY, Some Sand (CL) (Possible Fill)					
2		14	M	20							
						Stiff, Gray Lean CLAY, Trace Sand and Gravel (CL)	(1.5)				
3		16	M	13							
						Loose to Medium Dense, Light Brown Fine SAND, Some Silt and Gravel (SM)					
4		16	W	10							
						Dense, Brown Fine to Coarse SAND, Trace Gravel and Silt (SP)					
5		14	W	31							
						End Boring at 15 ft					
						Borehole backfilled with bentonite chips					

WATER LEVEL OBSERVATIONS				GENERAL NOTES	
While Drilling	▽ 8.5'	Upon Completion of Drilling		Start	12/20/07 End 12/20/07
Time After Drilling			1/4 hr	Driller	Badger Chief MA Rig D-120
Depth to Water			10.5' ▼	Logger	BR Editor ESF
Depth to Cave in			12.0'	Drill Method	4 1/4" HSA

The stratification lines represent the approximate boundary between  
The stratification lines represent the approximate boundary between



# LOG OF TEST BORING

Project Arbor Drive Area  
Pickford: 180'NW of Arbor, 7'NE of Centerline  
Location Madison, Wisconsin

Boring No. 2  
Surface Elevation (ft) \_\_\_\_\_  
Job No. C07022-30  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES					
No.	TYPE	Rec (in.)	Moist	N		Depth (ft)	qu (qa) (tsf)	w	LL	PL	LI
						4 in. Asphalt Pavement/5 in. Base Course					
1		16	M	20		FILL: Brown Sand and Gravel, Trace Silt and Clay					
2		18	M	7		Loose, Dark Gray Sandy SILT, Some Clay (ML)					
						Occasional Plant Fibers					
					5						
3		16	M	5							
						Very Loose to Loose, Black Sedimentary PEAT (PT)					
4		18	M	7		Medium Stiff, Gray Lean CLAY, Trace Organics (CL)	(0.75)				
					10						
						Medium Dense, Light Brown SILT, Trace Sand (ML)					
						Occasional Sandy and Clayey Lenses					
5		18	M	19							
					15	End Boring at 15 ft					
						Borehole backfilled with bentonite chips					
					20						

WATER LEVEL OBSERVATIONS				GENERAL NOTES	
While Drilling	<input checked="" type="checkbox"/> NW	Upon Completion of Drilling		Start	12/20/07 End 12/20/07
Time After Drilling			1/4 hr	Driller	Badger Chief MA Rig D-120
Depth to Water			12.0' <input checked="" type="checkbox"/>	Logger	BR Editor ESF
Depth to Cave in				Drill Method	4 1/4" HSA

The stratification lines represent the approximate boundary between transition may be gradual.



## LOG OF TEST BORING

Project Arbor Drive Area  
Arbor: 315'NE of Pickford, 9'SE of Centerline  
Location Madison, Wisconsin

Boring No. 3  
Surface Elevation (ft) \_\_\_\_\_  
Job No. C07022-30  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES					
No.	TYPE	Rec (in.)	Moist	N		Depth (ft)	qu (qa) (tsf)	W	LL	PL	LI
						6 in. Asphalt Pavement/6 in. Base Course					
1		16	M	10		FILL: Brown and Gray Clay, Some Sand and Gravel Sample 1 Frozen to 1.5 ft	(0.75)				
2		0	M	11							
3		14	M/W	9		Loose, Brown and Gray Silty Fine SAND, Some Gravel (SM)					
4		12	M	10		Loose to Medium Dense, Dark Gray Sandy SILT, Some Clay, Trace Gravel and Organics (ML)					
						Medium Dense, Light Brown Fine SAND, Little Silt (SP-SM)					
5		10	M	24							
						End Boring at 15 ft					
						Borehole backfilled with bentonite chips					

WATER LEVEL OBSERVATIONS				GENERAL NOTES	
While Drilling	<u>13.5'</u>	Upon Completion of Drilling	<u>1/4 hr</u>	Start	<u>12/20/07</u>
Time After Drilling			<u>12.0'</u>	Driller	<u>Badger</u>
Depth to Water				Chief	<u>MA</u>
Depth to Cave in				Logger	<u>BR</u>
				Editor	<u>ESF</u>
				Drill Method	<u>4 1/4" HSA</u>

The stratification lines represent the approximate boundary between the gradual.



## LOG OF TEST BORING

Project Arbor Drive Area  
Knickerbocker: 150'NW of Arbor, 10'SW of Centerline  
Location Madison, Wisconsin

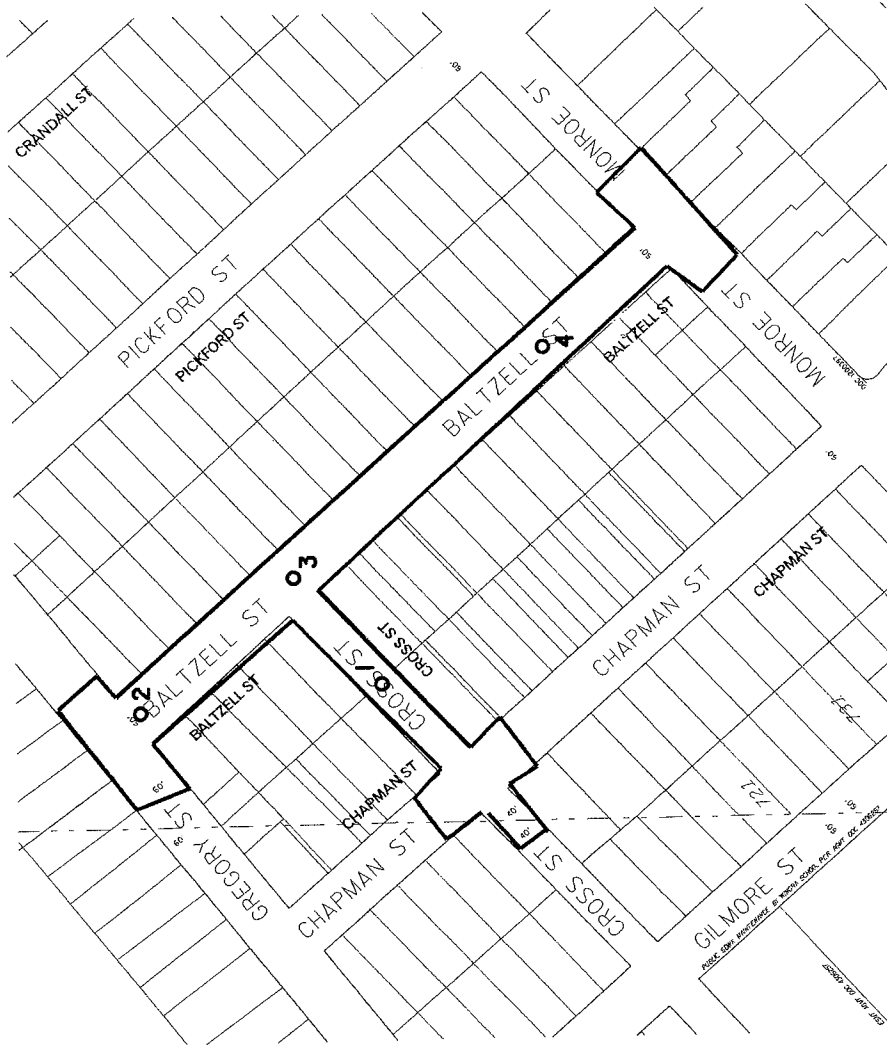
Boring No. 4  
Surface Elevation (ft) \_\_\_\_\_  
Job No. C07022-30  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES					
No.	TYPE	Rec (in.)	Moist	N		Depth (ft)	qu (qa) (tsf)	W	LL	PL	LI
						2 in. Asphalt Pavement/4 in. Base Course/6" Concrete Pavement					
1		18	M	11		FILL: Brown and Gray Clay, Some Sand and Gravel	(2.5)				
2		18	M	9		Stiff, Black Silty CLAY to Sedimentary PEAT (CL-PT)	(1.75)				
3		14	M	8		Stiff, Gray Lean to Sandy CLAY, Trace Gravel and Organics (CL)					
						Occasional Lenses and Seams of Fine Sand	(1.25)				
4		16	M	30		Medium Dense to Dense, Light Brown Fine SAND, Some Silt and Gravel (SM)					
5		16	W	32							
						End Boring at 15 ft					
						Borehole backfilled with bentonite chips					

WATER LEVEL OBSERVATIONS				GENERAL NOTES	
While Drilling	<input checked="" type="checkbox"/>	13.5'	Upon Completion of Drilling	7.5'	Start 12/20/07 End 12/20/07
Time After Drilling				1/4 hr	Driller Badger Chief MA Rig D-120
Depth to Water				11.5'	Logger BR Editor ESF
Depth to Cave in					Drill Method 4 1/4" HSA

The stratification lines represent the approximate boundary between  
soils. The transition may be gradual.



Legend

- Denotes Boring Location (approximate)



Notes

1. Soil borings performed by Badger State Drilling in September 2011

**SOIL BORING LOCATION PLAN**  
**Baltzell and Cross Streets**  
**Madison, Wisconsin**

CDC, Inc.

C11054-26

Date: 10/11

APP'D: MNS

DWN: -

[illegible]











# LOG OF TEST BORING

Project Commonwealth Avenue  
250'N of Monroe, 7'E of CL  
Location Madison, Wisconsin

Boring No. 9  
Surface Elevation (ft) 88.5\*  
Job No. C13064-18  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES					
No.	TYPE	Rec (in.)	Moist	N		Depth (ft)	qu (qa) (tsf)	W	LL	PL	LI
1		10	M	7		3" Asphalt Pavement/6.5" Concrete Pavement/2" Base Course Very Stiff, Brown Lean CLAY (CL)	(2.25)				
2		14	M	6				(3.25)			
3		18	M	7		Loose, Brown Fine to Medium SAND, Some Silt and Clay (SM/SC)					
4		14	M	38		Dense, Brown Fine to Medium Sand, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
						Weathered to Competent, Sandy Dolomitic LIMESTONE Bedrock					
						End boring at 12 ft due to auger refusal on competent bedrock					
						Borehole backfilled with bentonite chips and asphalt patch					
						*Elevation determined using an assumed datum of 100.0 ft referencing the top nut of a hydrant situated at the intersection of Commonwealth and Gregory					

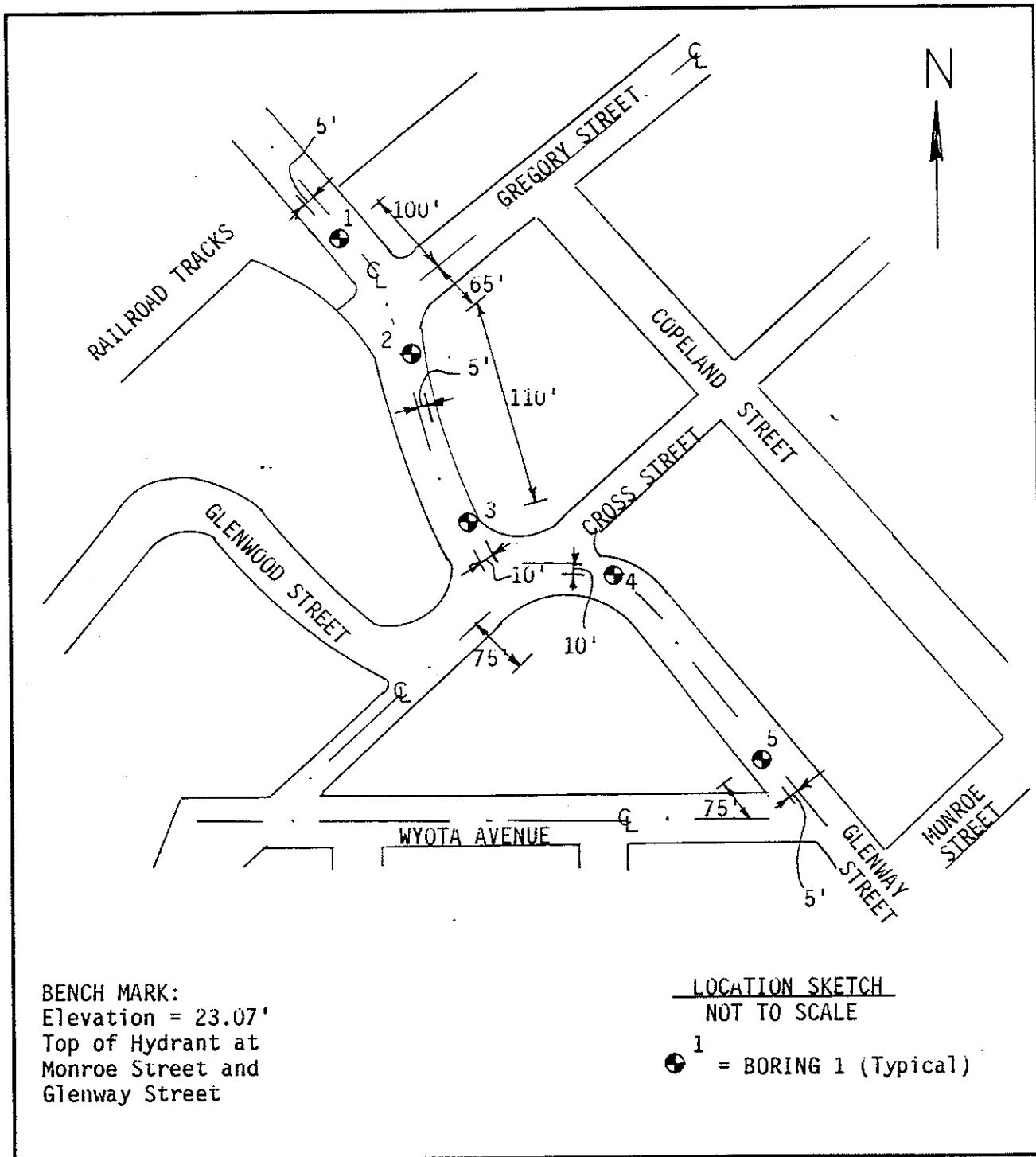
## WATER LEVEL OBSERVATIONS

## GENERAL NOTES

While Drilling ☒ **NW** Upon Completion of Drilling \_\_\_\_\_  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

Start 10/23/13 End 10/23/13  
Driller Badger Chief MC Rig CME-55  
Logger JM Editor ESF  
Drill Method 2 1/4" HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



SOILS & ENGINEERING SERVICES, INC.  
MADISON, WISCONSIN



### SOIL BORING LOCATION

Glenway Street

Monroe Street to Railroad Tracks

Madison, Wisconsin

DRAWING 11450.10-1

BORING: 4  
ELEVATION: 42.58

BORING COMPLETED: 2/15/96

ELEVATION FEET	DEPTH FEET	BLOW COUNTS	RECOV. SAMPLE	LITHO.	DESCRIPTION OF MATERIALS	LAB RESULTS, REMARKS
					<b>FILL MATERIAL</b> Bituminous pavement 0'0" to 0'4" Base course 0'4" to 1'0"	
		21			<b>LEAN CLAY (CL)</b> Brown Frozen to 3'0"	frozen sample  qp=1.0, 2.0 moist
40		5				
	5				<b>SILTY FINE SAND WITH GRAVEL (SM)</b> Brown Dry at completion End of boring	moist
	8					
	10					
30						

SOILS & ENGINEERING SERVICES, INC.  
MADISON, WISCONSIN

FOR NOTES AND LEGEND SEE DRAWING 11450.10-2



**SOIL BORING RECORD**  
Glenway Street  
Monroe Street to Railroad Tracks  
Madison, Wisconsin

DRAWING 11450.10-6

BORING: 5  
ELEVATION: 24.90

BORING COMPLETED: 2/15/96

ELEVATION FEET	DEPTH FEET	BLOW COUNTS	RECOV. SAMPLE	LITHO.	DESCRIPTION OF MATERIALS	LAB RESULTS, REMARKS
					<u>FILL MATERIAL</u> Bituminous pavement 0'0" to 0'6" Base course 0'6" to 1'0"	
		17			<u>FAT CLAY (CH)</u> Brown	frozen sample NM=28.0 LL=60 PL=22
		8			Frozen to 4'0"	qp=1.0, 1.5 moist
20	5					
		9			Sandy 6'0" to 6'3" <u>SILTY FINE SAND WITH GRAVEL (SM)</u> Brown Dry at completion	moist
					End of boring	
	10					

SOILS & ENGINEERING SERVICES, INC.  
MADISON, WISCONSIN

FOR NOTES AND LEGEND SEE DRAWING 11450.10-2

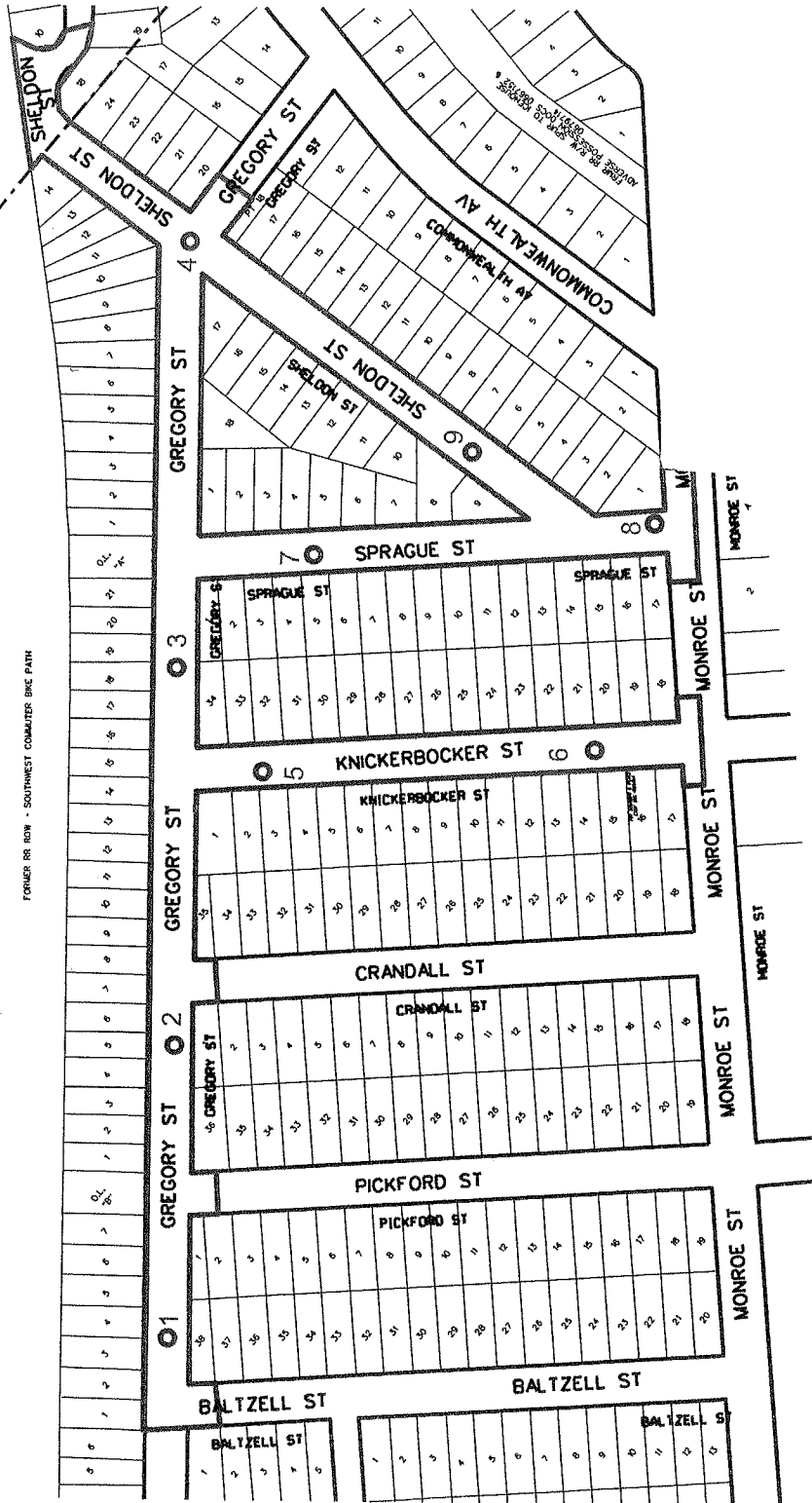


SOIL BORING RECORD  
Glenway Street  
Monroe Street to Railroad Tracks  
Madison, Wisconsin

DRAWING 11450.10-7



FORMER RR ROW - SOUTHWEST COMASTER BIKE PATH



Legend

○ Denotes Boring Location (approximate)

Notes

1. Soil borings performed by Badger State Drilling in October 2015

SOIL BORING LOCATION PLAN  
Gregory Street Area  
Madison, Wisconsin



C15051-18

Date: 11/15

APP'D: MNS

DWN:-



## LOG OF TEST BORING

Project Gregory Street Area  
Knickerbocker: 145'NW of Monroe, 8'NE of CL  
Location Madison, WI

Boring No. 6  
Surface Elevation (ft) \_\_\_\_\_  
Job No. C15051-18  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	qu (qa) (tsf)	W	LL	PL	LI
					2 in. Asphalt Pavement/6 in. Concrete Pavement					
1		12	M	6	Stiff to Very Stiff, Brown-Gray Lean CLAY (CL)	(1.75)				
2		14	M	10		(3.5)				
3		5	M	60/8"	Weathered to Competent, Brown Sandy LIMESTONE BEDROCK					
					End Boring at 7.5 ft Due to Auger Refusal on Competent Bedrock					
					Backfilled with Soil Cuttings and Asphalt Patch					

### WATER LEVEL OBSERVATIONS

### GENERAL NOTES

While Drilling ☒ NW Upon Completion of Drilling \_\_\_\_\_  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

Start 10/13/15 End 10/13/15  
Driller BSD Chief JF Rig CME-55  
Logger DB Editor ESF  
Drill Method 2.25" HSA; Autohammer

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



## LOG OF TEST BORING

Project Gregory Street Area  
Sprague: 50'NW of Monroe, 8'NE of CL  
Location Madison, WI

Boring No. 8  
Surface Elevation (ft) \_\_\_\_\_  
Job No. C15051-18  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks		SOIL PROPERTIES					
No.	TYPE	Rec (in.)	Moist	N			Depth (ft)	qu (qa) (tsf)	W	LL	PL	LI
						<div><div></div></div>	2 in. Asphalt Pavement/6 in. Concrete Pavement					
1		12	M	6		<div><div></div></div>	Stiff to Medium Stiff, Brown to Gray Lean CLAY (CL)	(1.25)				
2		14	M	8		<div><div></div></div>		(0.75)				
					5							
3		14	M	8		<div><div></div></div>	Loose, Brown Silty Fine SAND (SM)					
4		2	M	50/3"		<div><div></div></div>	Weathered to Competent, Brown LIMESTONE BEDROCK					
					10		End Boring at 9.5 ft Due to Auger Refusal on Competent Bedrock					
							Backfilled with Bentonite Chips and Asphalt Patch					
					15							
					20							

### WATER LEVEL OBSERVATIONS

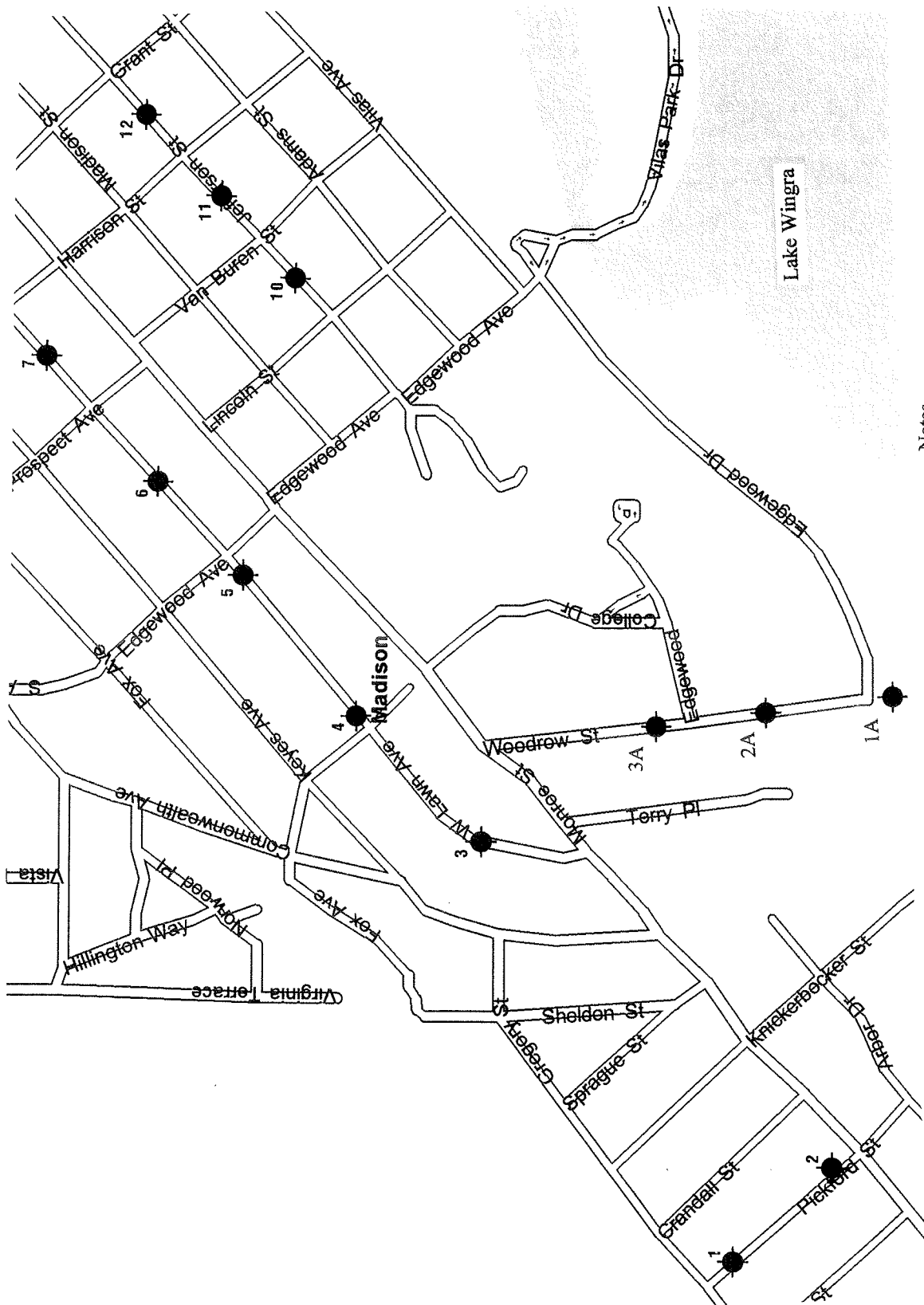
While Drilling ☒ NW Upon Completion of Drilling \_\_\_\_\_  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

### GENERAL NOTES

Start 10/13/15 End 10/13/15  
Driller BSD Chief JF Rig CME-55  
Logger DB Editor ESF  
Drill Method 2.25" HSA; Autohammer

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.





Notes

1. Soil borings performed by Badger State Drilling in December 2010

Legend



Denotes Boring Location (approximate)



# SOIL BORING LOCATION MAP

Westlawn Avenue Area  
Madison, Wisconsin

C&C, Inc.

DWN: -	APP'D: MNS	Date: 12/10	C10041-48
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## LOG OF TEST BORING

Project West Lawn Avenue Area  
Pickford: 170'NW of Monroe, 8'NE of CL  
 Location Madison, Wisconsin

Boring No. 2  
 Surface Elevation (ft) 101.6\*  
 Job No. C10041-48  
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks		SOIL PROPERTIES					
No.	TYPE	Rec (in.)	Moist	N			Depth (ft)	qu (qa) (tsf)	W	LL	PL	LI
							2" Asphalt Pavement/7" Concrete Pavement					
1		18	M	6			Stiff, Dark Brown Lean CLAY (CL)	(1.5)				
2		18	M	9			Loose to Medium Dense, Light Brown Silty Fine SAND, Trace Gravel (SM)					
3		18	W	10								
4		18	W	14								
5		18	W	10								
End Boring at 15 ft												
Borehole backfilled with bentonite chips												
*Elevation determined using an assumed datum of 100.0 ft referencing the top nut of a hydrant situated at the north corner of the intersection of Pickford and Monroe												

\*Elevation determined using an assumed datum of 100.0 ft referencing the top nut of a hydrant situated at the north corner of the intersection of Pickford and Monroe

WATER LEVEL OBSERVATIONS					GENERAL NOTES				
While Drilling	<u>▽ 6.5'</u>	Upon Completion of Drilling	<u>6.5</u>		Start	<u>12/9/10</u>	End	<u>12/9/10</u>	
Time After Drilling					Driller	<u>Badger</u>	Chief	<u>BM</u>	Rig <u>CME-55</u>
Depth to Water					Logger	<u>MC</u>	Editor	<u>ESF</u>	
Depth to Cave in					Drill Method	<u>4 1/4" FA</u>			

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



## LOG OF TEST BORING

Project West Lawn Avenue Area  
West Lawn: 550'SW of Leonard, 9'SE of CL  
Location Madison, Wisconsin

Boring No. 3  
Surface Elevation (ft) 94.7\*  
Job No. C10041-48  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
					3.5" Asphalt Pavement/7" Concrete Pavement					
1	18	M	6		Loose to Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
2	18	M	13							
				5	Medium Dense to Very Dense, White Fine to Medium SAND, Some Gravel, Trace Silt (SP)					
3	18	M	77		(Weathered Sandstone Bedrock)					
4	18	M	41							
				10						
5	18	M	25							
				15	End Boring at 15 ft					
					Borehole backfilled with bentonite chips					
					*Elevation determined using an assumed datum of 100.0 ft referencing the top nut of a hydrant situated along the NW side of West Lawn approximately 500'SW of Leonard					
				20						

### WATER LEVEL OBSERVATIONS

### GENERAL NOTES

While Drilling ∇ NW Upon Completion of Drilling NW  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

Start 12/9/10 End 12/9/10  
Driller Badger Chief BM Rig CME-55  
Logger MC Editor ESF  
Drill Method 4 1/4" FA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

# LOG OF TEST BORING

Project **Woodrow Street**  
**420'N of Cul de Sac at Centerline**  
 Location **Madison, Wisconsin**

Boring No. **3A**  
Surface Elevation (ft) \_\_\_\_\_  
Job No. **C09028-30**  
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Depth (ft)	Rec (in.)	Moist	N		qu (qa) (tsf)	W	LL	PL	LI
					3" Asphalt Pavement/5" Concrete Pavement/3" Recycled Asphalt					
1		10	M	10	Very Stiff, Brown Mottled Lean CLAY, Trace to Little Sand (CL)	(2.25)				
2		14	M	9		(2.5)				
3		10	M	17	Medium Dense, Light Brown Fine to Medium SAND, Some Gravel, Little Silt (SP-SM)					
4		10	M	62/10"	Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
					End Boring at 11 ft due to Auger Refusal on Presumed Dolomite Bedrock					
					Borehole backfilled with bentonite chips					

## WATER LEVEL OBSERVATIONS

While Drilling	<u>7.5'</u>	Upon Completion of Drilling				<u>NW</u>
Time After Drilling	_____	_____	_____	_____	_____	_____
Depth to Water	_____	_____	_____	_____	_____	_____
Depth to Cave in	_____	_____	_____	_____	_____	_____

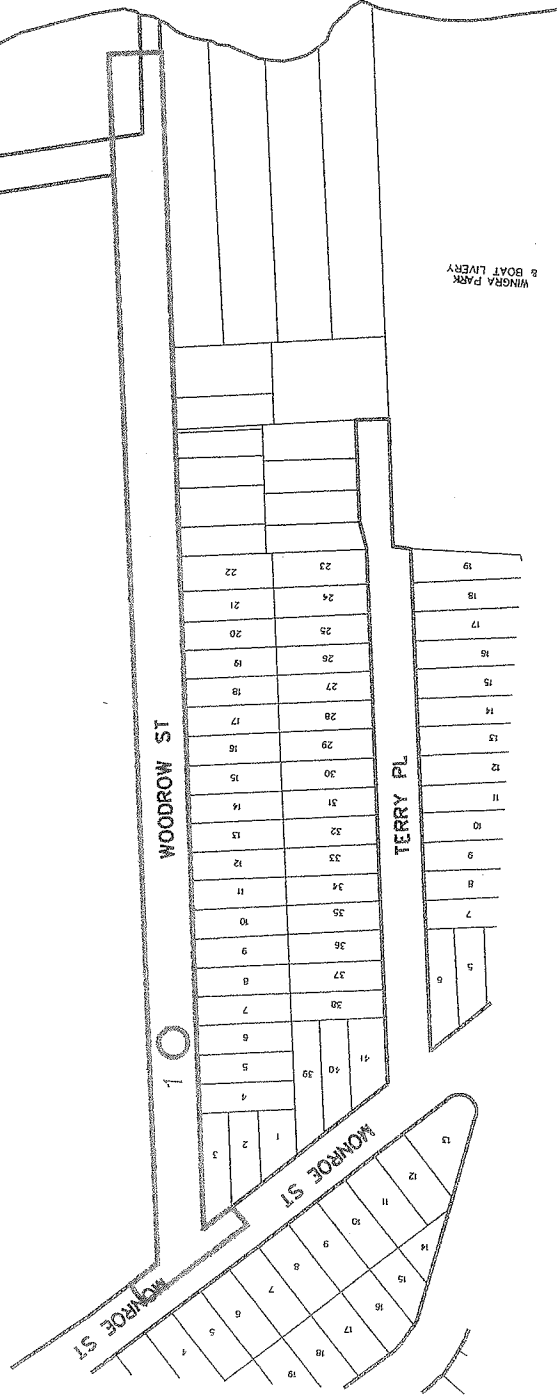
## GENERAL NOTES

Start	11/2/09	End	11/2/09	
Driller	Badger	Chief	AP	Rig CME-55
Logger	RR	Editor	ESF	
Drill Method	2 1/4" HSA			

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



LAKE WINGRA



Legend

- Denotes Boring Location (approximate)

Notes

1. Soil boring performed by Badger State Drilling in December 2015

**SOIL BORING LOCATION PLAN**

**Woodrow Street  
Madison, Wisconsin**

*C&C, Inc.*

C15051-33

Date: 12/15

APP'D: MNS

DWN: -



## LOG OF TEST BORING

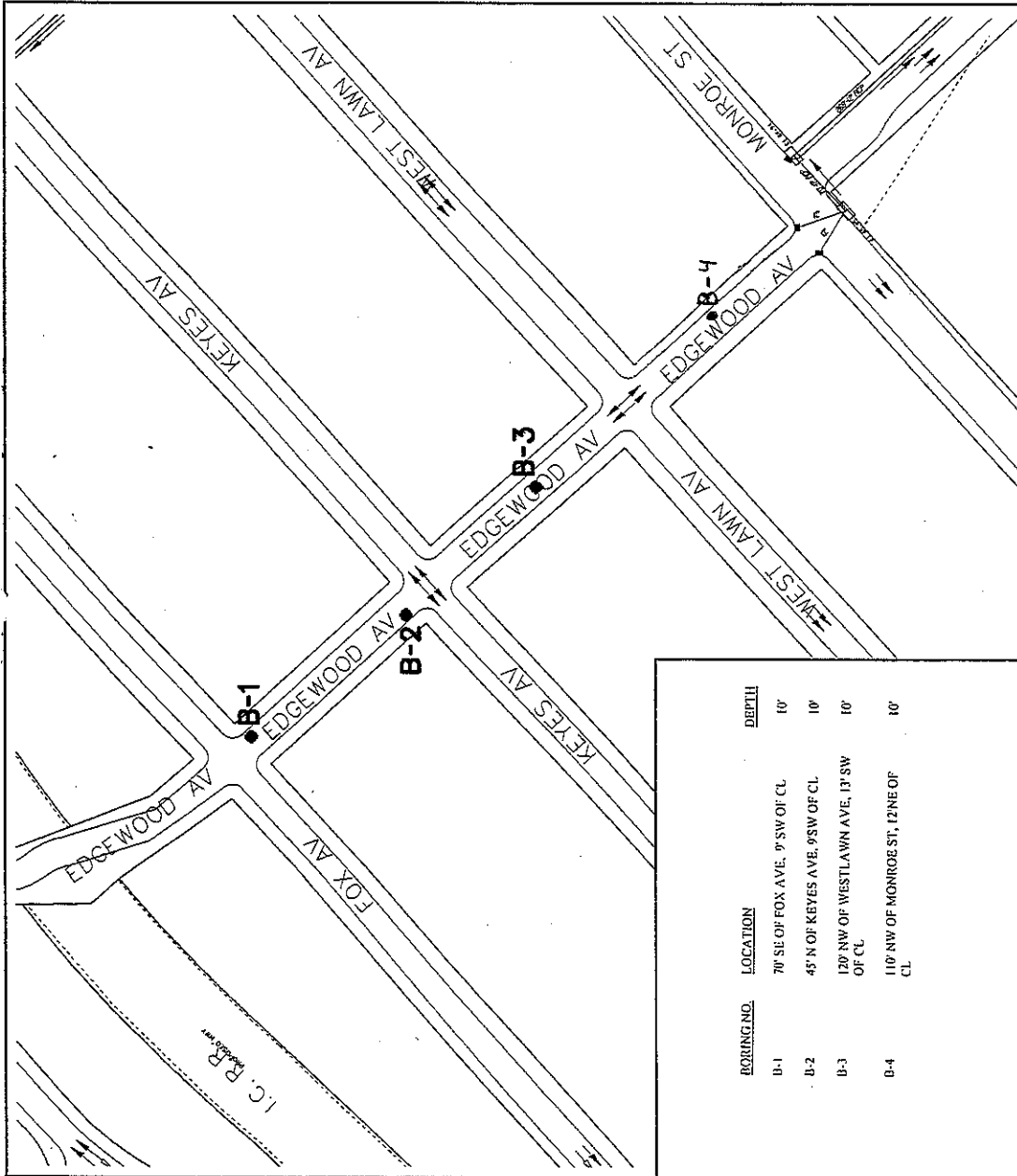
Project Woodrow Street  
300'S of Monroe, 7'E of CL  
Location Madison, Wisconsin

Boring No. 1  
Surface Elevation (ft)             
Job No. C15051-33  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES					
No.	TYPE	Rec (in.)	Moist	N		Depth (ft)	qu (qa) (tsf)	W	LL	PL	LI
						6 in. Asphalt Pavement/5 in. Concrete Pavement/4 in. Base Course					
1		14	M	5		FILL: Loose, Brown Clayey Sand					
2		16	M	6		Loose to Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
3		14	M	15							
4		16	M	17							
5		16	M	37							
						Highly Weathered, Greenish-Gray Sandstone BEDROCK					
						End Boring at 15 ft					
						Backfilled with Chips and Asphalt Patch					

WATER LEVEL OBSERVATIONS					GENERAL NOTES					
While Drilling	<input checked="" type="checkbox"/> NW	Upon Completion of Drilling			Start	12/9/15	End	12/9/15		
Time After Drilling					Driller	BSD	Chief	MC	Rig	CME-55
Depth to Water					Logger	JR	Editor	ESF		
Depth to Cave in					Drill Method	2 1/4 in. HSA;				
The stratification lines represent the approximate boundary between soil types and the transition may be gradual.					Autohammer					



BORING NO.	LOCATION	DEPTH
B-1	70' SE OF FOX AVE, 9' SW OF CL	10'
B-2	45' N OF KEYES AVE, 9' SW OF CL	10'
B-3	120' NW OF WESTLAWN AVE, 13' SW OF CL	10'
B-4	110' NW OF MONROE ST, 12' NE OF CL	10'

**Legend**

- Denotes Boring Location

**Notes**

1. Base map provided by City of Madison.
2. Soil borings drilled by J&J Soil Testing in January 2006



Scale: unknown

DWN: -	APP'D: MNS	Date: 1/06	C05041-21
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CGC, Inc.

**SOIL BORING LOCATION MAP**  
 Edgwood Avenue  
 Madison, Wisconsin



## LOG OF TEST BORING

Project Edgewood Avenue  
110'NW of Monroe; 12'NE of Centerline  
Location Madison, Wisconsin

Boring No. 4  
Surface Elevation (ft) 94.6\*  
Job No. C05041-21  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Depth (ft)	Rec (in.)	Moist	N		qu (qa) (tsf)	W	LL	PL	LI
					4" Asphalt/6" Concrete/1" Base Course					
1	12	M	22		FILL: Mixed Brown Clay and Topsoil Hard, Brown Lean CLAY (CL)	(4.5+)				
2	18	M	17		Medium Dense, Brown Fine SAND, Some Silt and Gravel (SM)					
3	18	M	22		Medium Dense to Dense, Whitish-Tan Fine SAND (Weathered Sandstone Bedrock)					
4	18	M	23							
					End Boring at 10 ft  Borehole backfilled with bentonite chips  *Elevation referenced to <i>assumed</i> datum. See Page 1 of report.					

### WATER LEVEL OBSERVATIONS

### GENERAL NOTES

While Drilling NW Upon Completion of Drilling NW  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

Start 1/13/06 End 1/13/06  
Driller J&J Chief JP Rig CME-45  
Logger JP Editor ESF  
Drill Method 2 1/4 in. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.





# Legend

● Denotes Boring Location (approximate)

# Notes

1. Soil borings drilled by Badger State Drilling in January 2009



## SOIL BORING LOCATION MAP Edgewood Avenue Madison, Wisconsin

CGC, Inc.

DWN: -

APP'D: MNS

Date: 1/09


C08071-31

# LOG OF TEST BORING

Project	Edgewood Avenue
	30' SE of Monroe, 14' NE of Centerline
Location	Madison, Wisconsin

Boring No. **1**  
Surface Elevation (ft) \_\_\_\_\_  
Job No. **C08071-31**  
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	T Y P E	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
						 3 in. Asphalt Pavement/6 in. Concrete Pavement					
1		18	M	69*		FILL: Dark Brown Clay with Sand and Gravel, Trace Topsoil					
						Stiff, Brown Lean CLAY (CL)					
2		10	M	8			(1.5)				
3		12	M	11		Medium Stiff and Sandy at 6.5 ft	(0.75)				
						Dense to Very Dense, White Fine to Medium Sand, Some Gravel, Trace Silt (SP) (Weathered Sandstone Bedrock)					
4		15	M	31							
5		14	M	50/5"							
						End Boring at 15 ft					
						Borehole backfilled with bentonite chips					
						* Sample 1 Frozen					

## WATER LEVEL OBSERVATIONS

While Drilling	<u>  </u> NW	Upon Completion of Drilling			<u>  </u> NW
Time After Drilling	_____	_____	_____	_____	_____
Depth to Water	_____	_____	_____	_____	_____
Depth to Cave in	_____	_____	_____	_____	_____

## GENERAL NOTES

Start	<b>1/26/09</b>	End	<b>1/26/09</b>	
Driller	<b>Badger</b>	Chief	<b>RB</b>	Rig <b>B-59</b>
Logger	<b>KD</b>	Editor	<b>ESF</b>	
Drill Method	<b>2 1/4 in. HSA</b>			

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



## LOG OF TEST BORING

Project Edgewood Avenue  
125' NW of Jefferson, 8' NE of Centerline  
 Location Madison, Wisconsin

Boring No. 2  
 Surface Elevation (ft) \_\_\_\_\_  
 Job No. C08071-31  
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N			qu (qa) (tsf)	W	LL	PL	LI
						3 in. Asphalt Pavement/5 in. Concrete Pavement					
1		4	M	50/4"		FILL: Brown Clay with Sand and Gravel					
2		10	M	14		Stiff to Very Stiff, Brown Lean CLAY (CL)					
					5		(2.0)				
3		16	M	66		Very Dense to Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
4		16	M	34							
					10						
						Medium Dense, White Fine to Medium SAND, Some Gravel, Trace Silt (SP) (Weathered Sandstone Bedrock)					
5		14	M	29							
					15						
						End Boring at 15 ft					
						Borehole backfilled with bentonite chips					
						* Sample 1 Frozen					
					20						

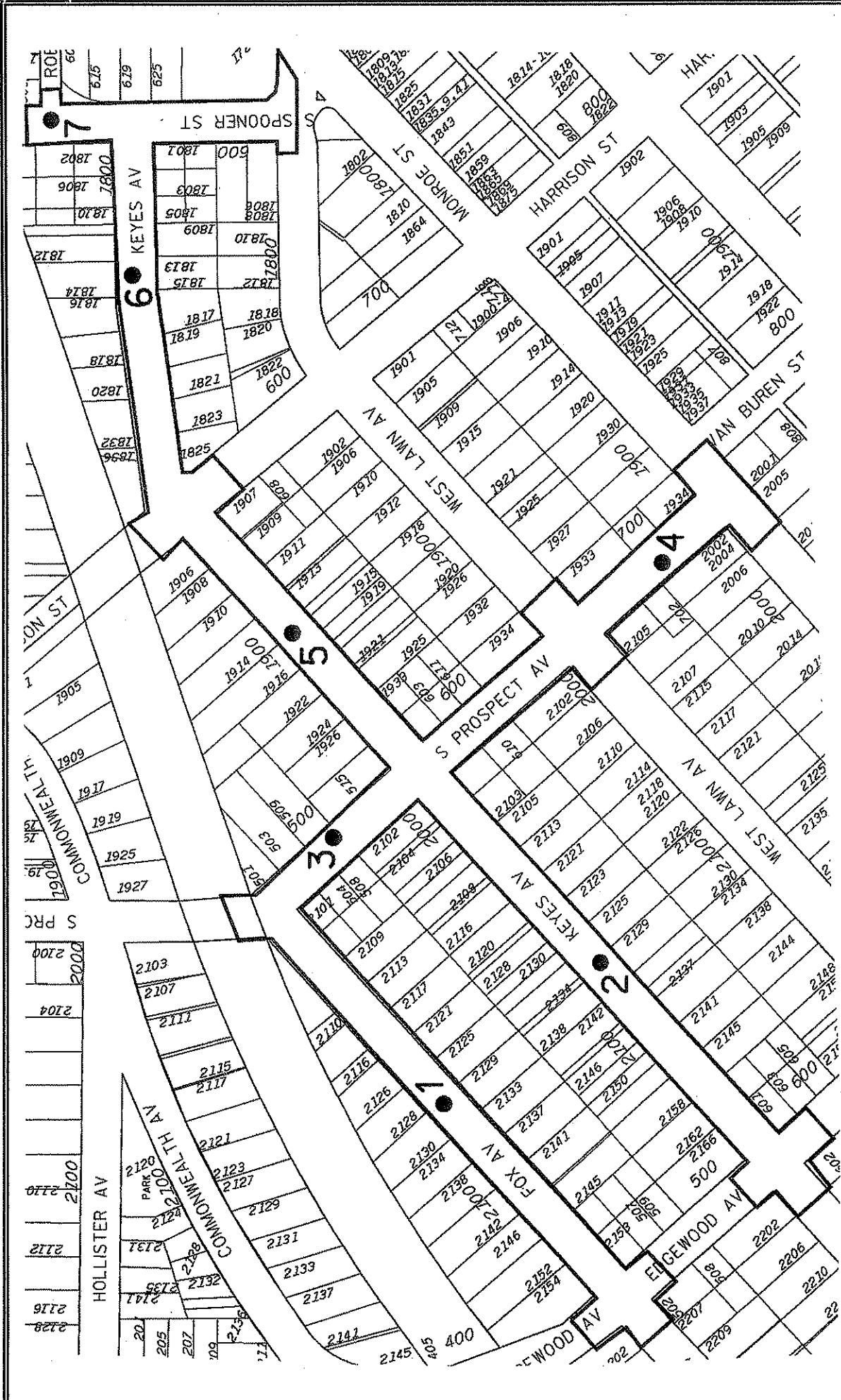
### WATER LEVEL OBSERVATIONS

### GENERAL NOTES

While Drilling ∇ NW Upon Completion of Drilling NW  
 Time After Drilling \_\_\_\_\_  
 Depth to Water \_\_\_\_\_  
 Depth to Cave in \_\_\_\_\_

Start 1/26/09 End 1/26/09  
 Driller Badger Chief RB Rig B-59  
 Logger KD Editor ESF  
 Drill Method 2 1/4 in. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



**Legend**

● Denotes Boring Location (approximate)

**Notes**

1. Soil borings drilled by Badger State Drilling in November 2008



**SOIL BORING LOCATION MAP**  
**Fox, Keyes and Prospect Avenues**  
**Madison, Wisconsin**

DWN: -	APPD: MNS	Date: 11/08	C08071-16
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CGC, Inc.



# LOG OF TEST BORING

Project Fox, Keyes & Prospect Avenues  
 Prospect: 100'NW of Monroe, 9' SW of Centerline  
 Location Madison, WI

Boring No. 4  
 Surface Elev. (ft) \_\_\_\_\_  
 Job No. C08071-16  
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	EXAM (in.)	Rec (in.)	Moist	N		qu (qa) (tsf)	W	LL	PL	PID
					2 in. Asphalt Pavement/5.5 in. Concrete Pavement with Wire Mesh					
1X 1		16	M	6	Stiff, Brown Lean CLAY (CL)	(1.25)				
					Loose, Dark Brown Fine to Coarse SAND, Some Silt, Little Gravel (SM)					
2		14	M	22	Medium Dense, Light Brown Fine SAND, Little Silt (SP-SM)					
3		12	M	11	Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
4		18	M	29	Medium Dense, to Very Dense, White and Brown Fine SAND, Some Gravel, Trace Silt (SP) (Weathered to Competent Sandstone Bedrock)					
5		16	M	76/ 10"	End Boring at 14.8 ft Due to Spoon Refusal  Borehole backfilled with bentonite chips					

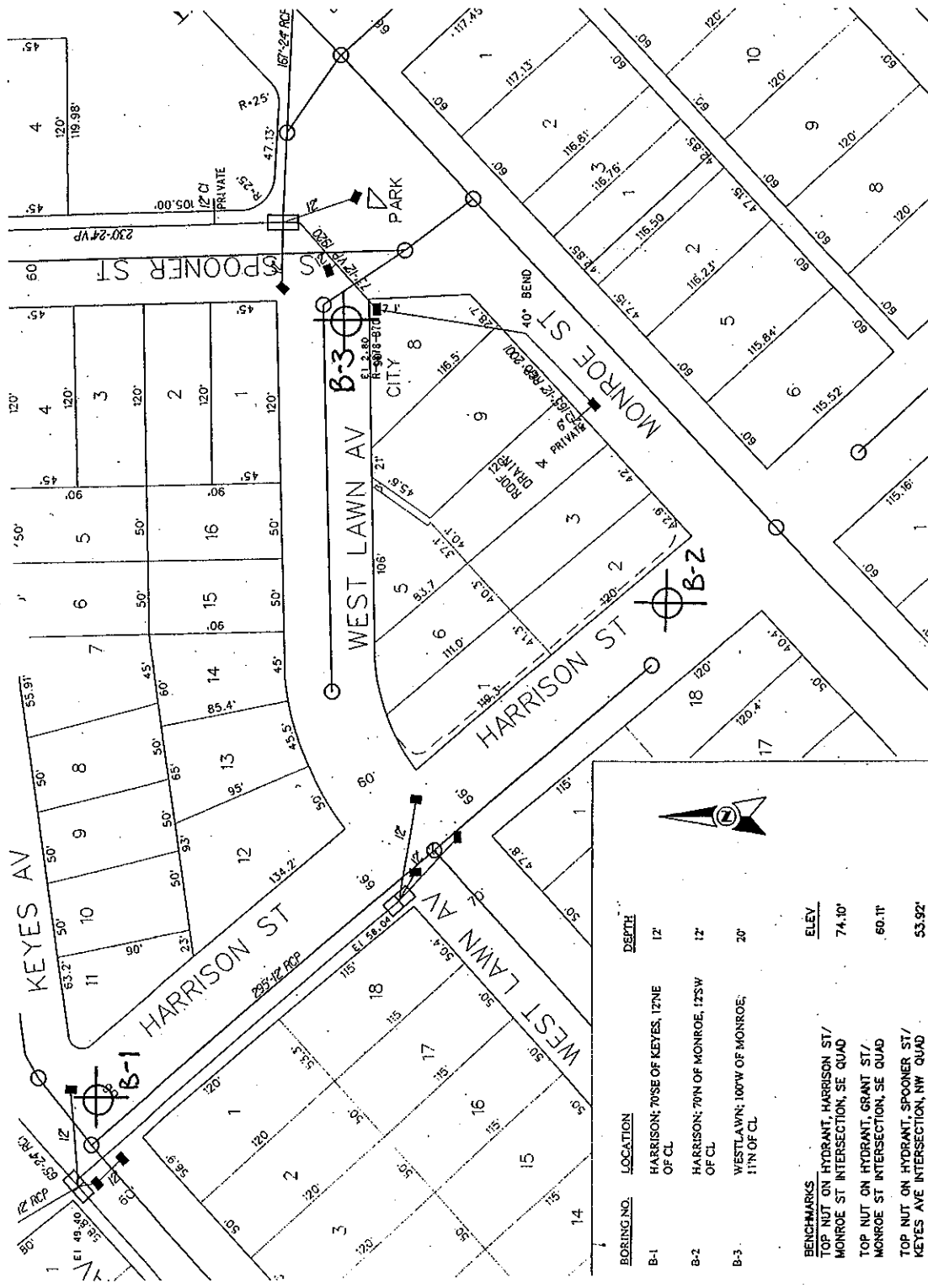
## WATER LEVEL OBSERVATIONS

## GENERAL NOTES

While Drilling ☒ NW Upon Completion of Drilling NW  
 Time After Drilling \_\_\_\_\_  
 Depth to Water \_\_\_\_\_  
 Depth to Cave in \_\_\_\_\_

Start 11/19/08 End 11/19/08  
 Driller Badger Chief RR Rig D-120  
 Logger GFP Editor ESF  
 Drill Method 2 1/4 in. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



BORING NO.	LOCATION	DEPTH	ELEV
B-1	HARRISON; 70SE OF KEYES, 12NE OF CL	12'	74.10'
B-2	HARRISON; 70N OF MONROE, 12SW OF CL	12'	60.11'
B-3	WESTLAWN; 100W OF MONROE, 11N OF CL	20'	53.92'

BENCHMARKS  
 TOP NUT ON HYDRANT, HARRISON ST/ MONROE ST INTERSECTION, SE QUAD  
 TOP NUT ON HYDRANT, GRANT ST/ MONROE ST INTERSECTION, SE QUAD  
 TOP NUT ON HYDRANT, SPOONER ST/ KEYES AVE INTERSECTION, NW QUAD

Legend



Denotes Boring Location

Notes

1. Base map provided by City of Madison.
2. Soil boring drilled by J&J Soil Testing in December 2005

Scale: unknown

**SOIL BORING LOCATION MAP**  
 Harrison Street and Westlawn Avenue  
 Madison, Wisconsin

DWN: -	APP'D: MNS	Date: 12/05	C05041-18
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CGC, Inc.



## LOG OF TEST BORING

Project Harrison & Westlawn  
Harrison; 70'N of Monroe, 12'SW of Centerline  
Location Madison, Wisconsin

Boring No. 2  
Surface Elevation (ft) 61.8  
Job No. C05041-18  
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N		qu (qa) (tsf)	W	LL	PL	LI
1		12	M	9	6" Concrete FILL: Brown Lean Clay, Few Brown Fine Sand Seams to 3 ft+/- Grading to Brown Silty Fine Sand	(0.7-4.5+)				
2A/B		15	M	23	Medium Dense, Gray Sandy SILT, Trace Gravel (Possible Fill) (ML)					
3		18	M	15	Medium Dense, Brown Fine SAND, Some Silt and Gravel (SM)					
4		1	M	19						
5		18	M	53	Very Dense, Tan Fine SAND, Trace Silt (Possible Weathered Sandstone) (SP)					
					End Boring at 12.5 ft  Borehole backfilled with bentonite chips					

### WATER LEVEL OBSERVATIONS

### GENERAL NOTES

While Drilling ∇ NW Upon Completion of Drilling NW  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

Start 12/30/05 End 12/30/50  
Driller J&J Chief JP Rig CME-45  
Logger JP Editor ESF  
Drill Method 2 1/4" HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



## LOG OF TEST BORING

Project Harrison & Westlawn  
 Westlawn: 100'W of Monroe, 11'N of Centerline  
 Location Madison, Wisconsin

Boring No. 3  
 Surface Elevation (ft) 59.5  
 Job No. C05041-18  
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N		qu (qa) (tsf)	W	LL	PL	LI
1A/B		18	M	13						
2A/B		18	M	9		(2.5)				
3		1	M	25						
4		18	M	16						
5A/B		18	M	30						
6		18	M	26						
					End Boring at 20 ft					
					Borehole backfilled with bentonite chips					

### WATER LEVEL OBSERVATIONS

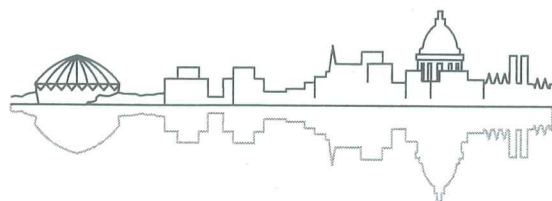
### GENERAL NOTES

While Drilling ✓ NW Upon Completion of Drilling NW  
 Time After Drilling \_\_\_\_\_  
 Depth to Water \_\_\_\_\_  
 Depth to Cave in \_\_\_\_\_

Start 12/30/05 End 12/30/05  
 Driller J&J Chief JP Rig CME-45  
 Logger JP Editor ESF  
 Drill Method 2 1/4" HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.





Madison, Wisconsin

# CITY OF MADISON

## CITY ENGINEERING DIVISION

### DEPARTMENT OF PUBLIC WORKS

## PLAN OF PROPOSED IMPROVEMENT

#### INDEX OF SHEETS

SHEET NO.	I	TITLE
SHEET NO.	DI-D4	NOTES & DETAILS
SHEET NO.	ECI-EC24	EROSION CONTROL PLANS
SHEET NO.	HMI-HM4	HAZARDOUS MATERIALS DETAILS
SHEET NO.	PI-P23	STREET PLAN & PROFILES
SHEET NO.	SN1-SN25	SANITARY SEWER PLAN & PROFILES
SHEET NO.	SN26-SN29	SANITARY SEWER SCHEDULES
SHEET NO.	ST1-ST23	STORM SEWER PLAN & PROFILES
SHEET NO.	ST24-ST31	STORM SEWER SCHEDULES
SHEET NO.	SSI-SS3	SCREEN STRUCTURE PLANS & DETAILS
SHEET NO.	RT1-RT2	ROCK TRENCH PLANS & DETAILS
SHEET NO.	BLT1	BED LOAD TRAP PLAN & PROFILE
SHEET NO.	BR1-BR4	BIORETENTION PLANS & DETAILS
SHEET NO.	RG1-RG2	RAIN GARDEN PLANS
SHEET NO.	WI-W23	WATER PLAN & PROFILES
SHEET NO.	W24-W33	WATER IMPACT PLAN & MATERIALS
SHEET NO.	W34-W36	PROTECTIVE MEASURES FOR WATER
SHEET NO.	E1-E24	ELECTRICAL PLAN
SHEET NO.	E25-E34	ELECTRICAL SCHEDULE
SHEET NO.	MI-M16	PAVEMENT MARKING PLAN
SHEET NO.	TC1-TC28	TRAFFIC CONTROL PLANS
SHEET NO.	LI-L29	LANDSCAPING PLANS
SHEET NO.	XI-X55	CROSS SECTIONS

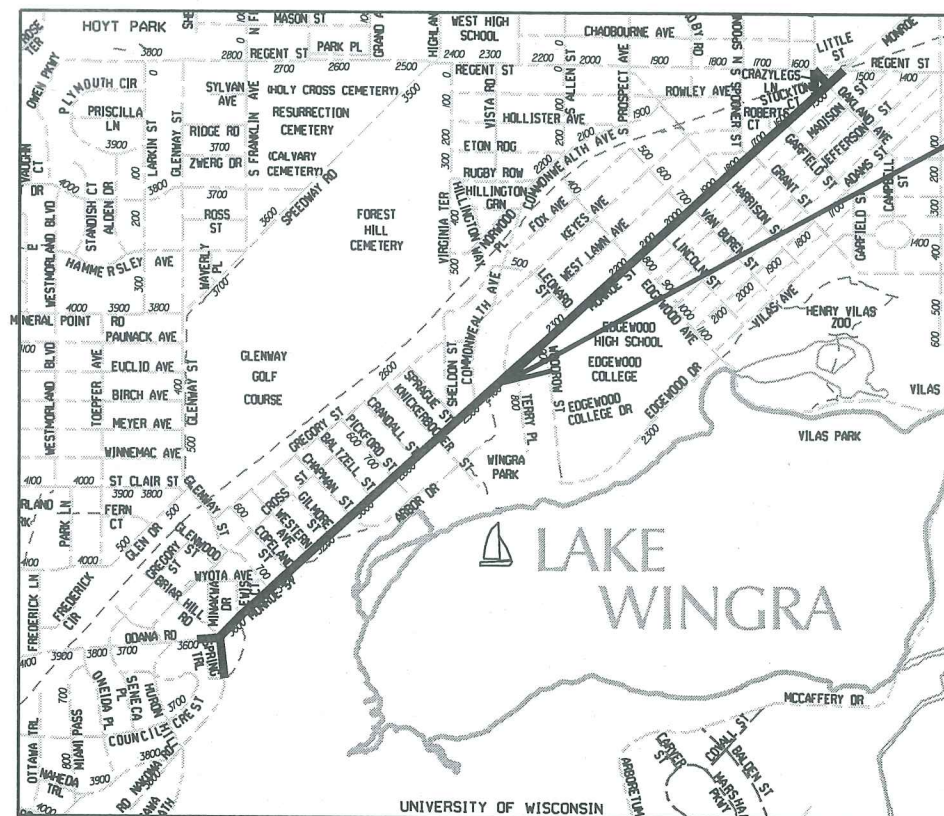
## MONROE STREET ASSESSMENT

### DISTRICT - 2018

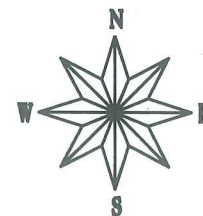
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MUNIS NO. 10251

CONTRACT NO. 7974



### PROJECT LOCATION

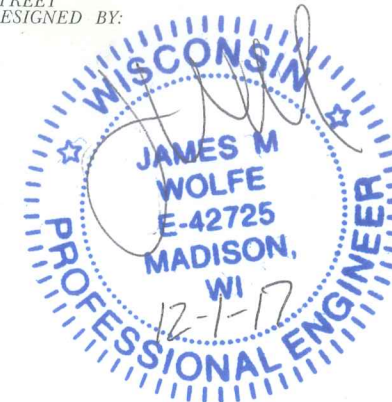


PUBLIC IMPROVEMENT PROJECT APPROVED

OCTOBER 3, 2017

BY THE COMMON COUNCIL  
OF MADISON, WISCONSIN

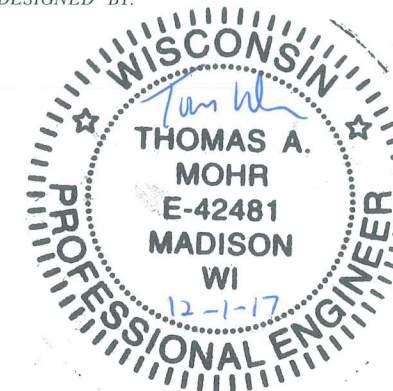
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DESIGNED BY:



PUBLIC IMPROVEMENT DESIGN  
APPROVED BY:

*[Signature]* 12/14/17  
City Engineer Date

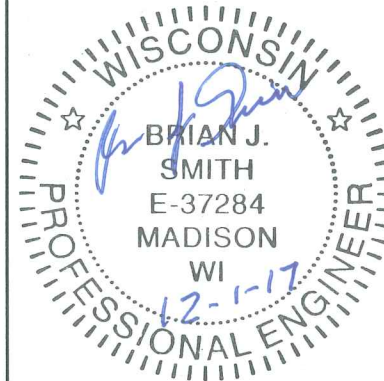
PAVEMENT MARKINGS &  
TRAFFIC CONTROL  
DESIGNED BY:



SANITARY SEWER  
DESIGNED BY:



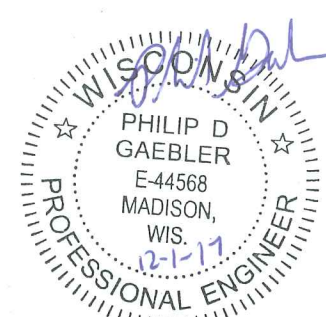
LIGHTING & SIGNALS  
DESIGNED BY:



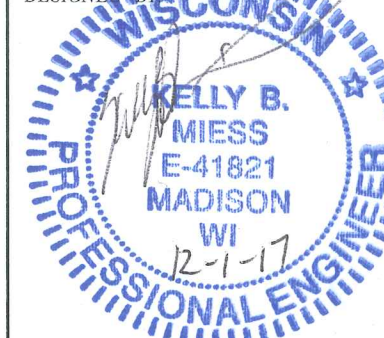
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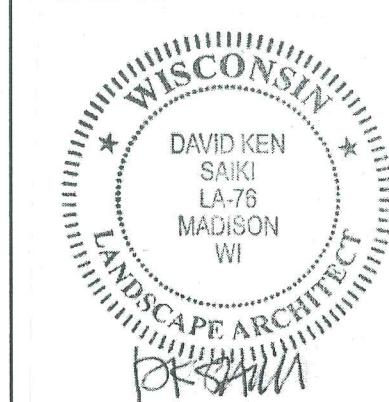
WATER QUALITY FEATURES  
DESIGNED BY:



WATER MAIN  
DESIGNED BY:



PLAZA & WINGRA  
PARK ENTRANCE  
DESIGNED BY:



#### NOTES:

ALL GUTTERS SHALL DRAIN WITH A MINIMUM GRADE OF 0.50% TOWARD STORM SEWER INLETS.

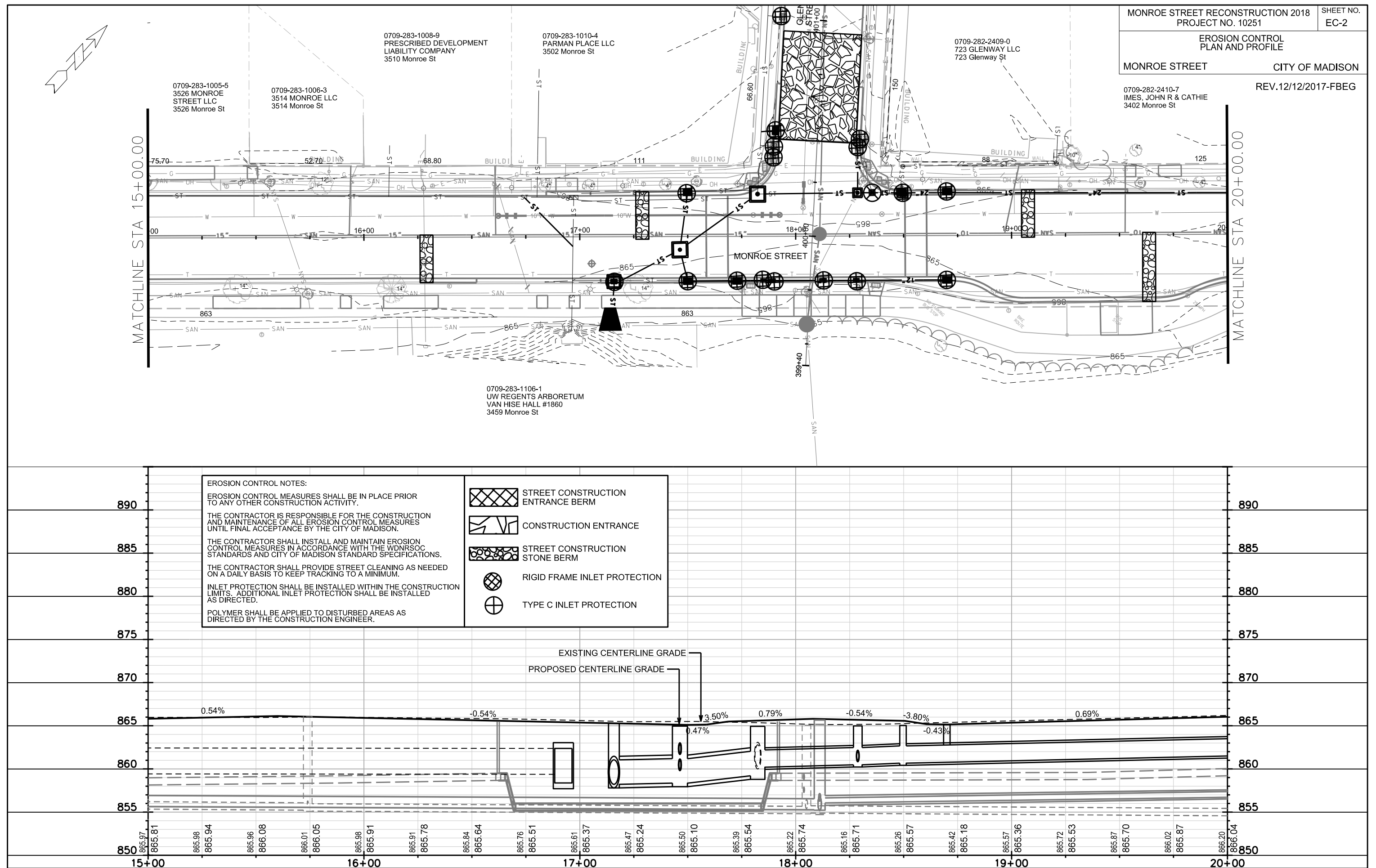
SIDEWALK RAMPS AND CURB THRU SIDEWALK RAMPS SHALL HAVE A MAXIMUM SLOPE OF 1" PER 12". SIDEWALK AND CURB RAMPS SHALL BE CONSTRUCTED WITH A SIDE SLOPE OF 1.50%. SIDEWALK SHALL HAVE A MINIMUM LONGITUDINAL SLOPE OF 0.50% AND A MAXIMUM LONGITUDINAL SLOPE OF 5.00%.

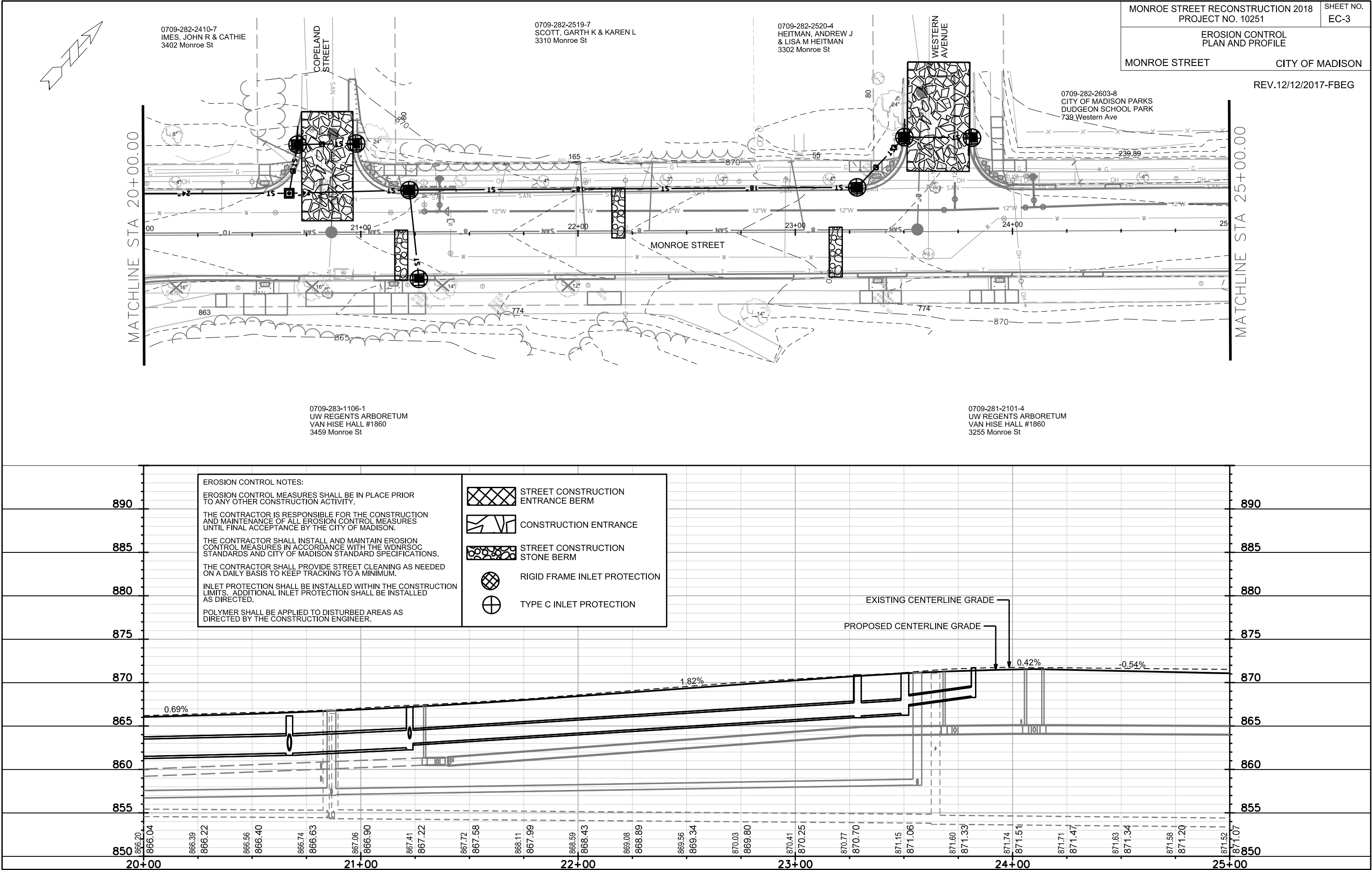
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EXCAVATION CUT (MEASURED PLAN QUANTITY).....39,900 C.Y.  
ESTIMATED UNDISTRIBUTED UNDERCUT.....6,500 C.Y.  
TOTAL UNCLASSIFIED EXCAVATION CUT.....46,400 C.Y.

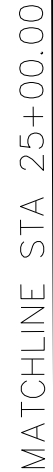








0709-281-2101-4  
UW REGENTS ARBORETUM  
VAN HISE HALL #1860  
3255 Monroe St

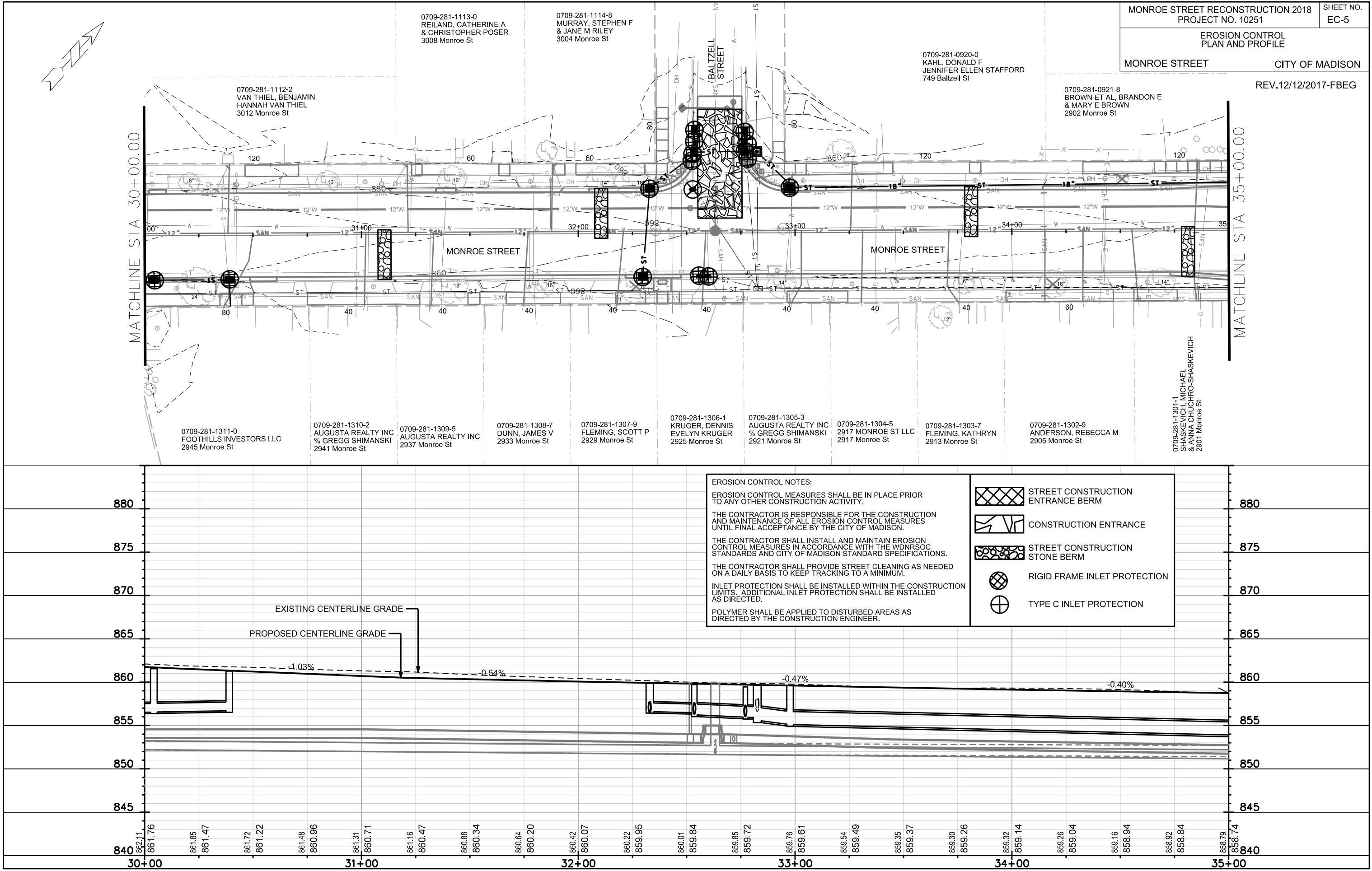


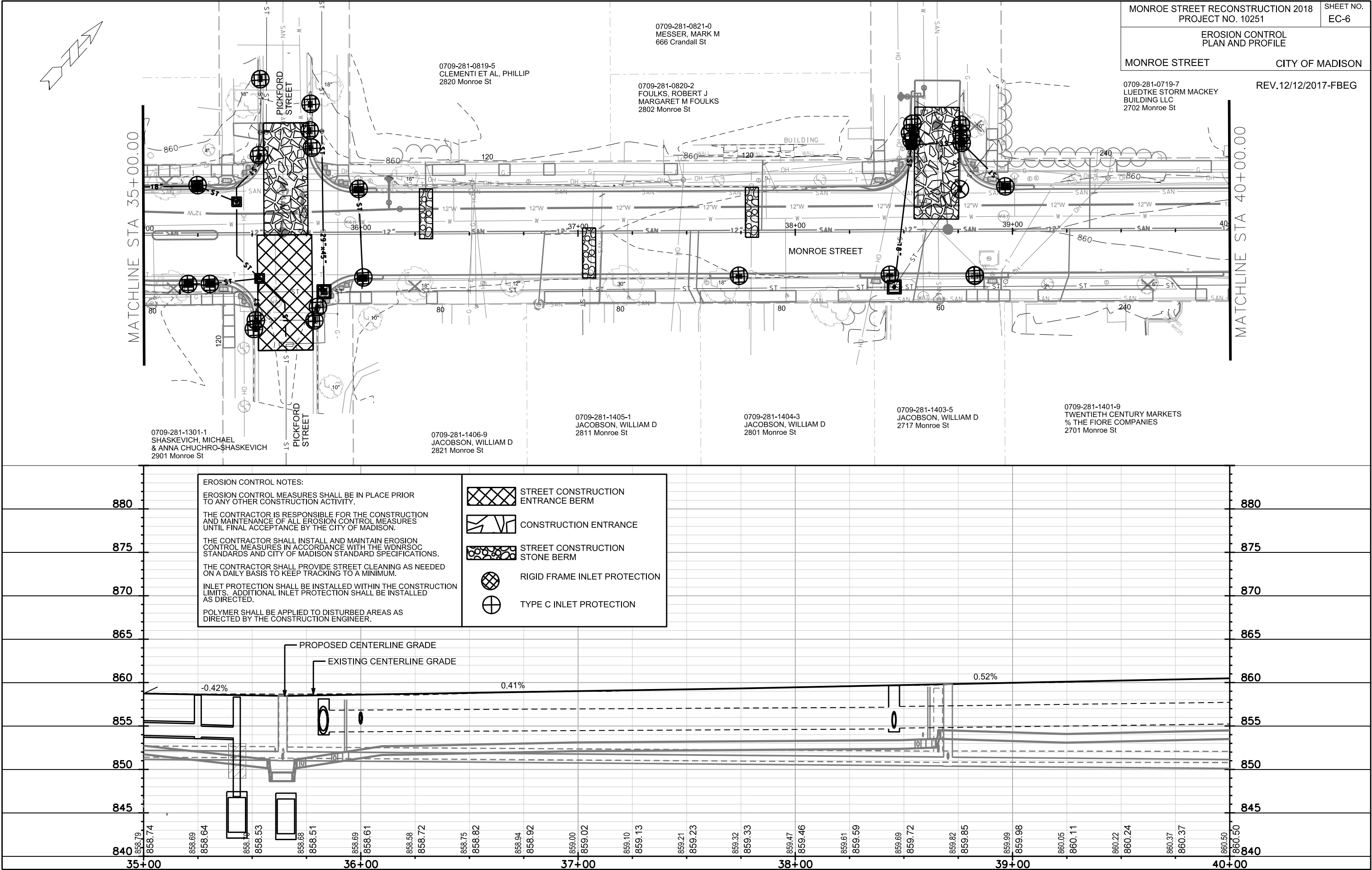
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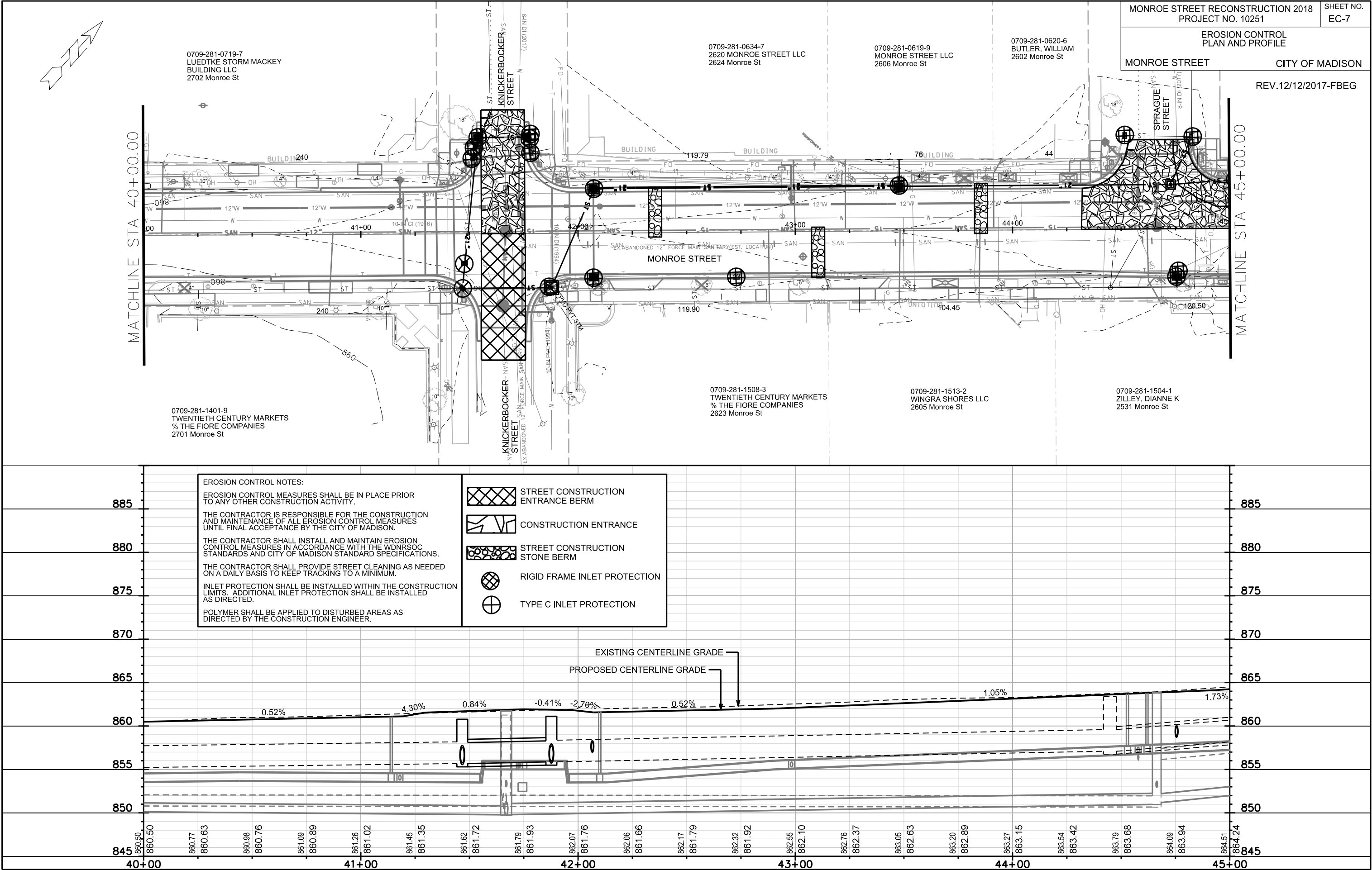
PLOT NAME:

REV. DATE:

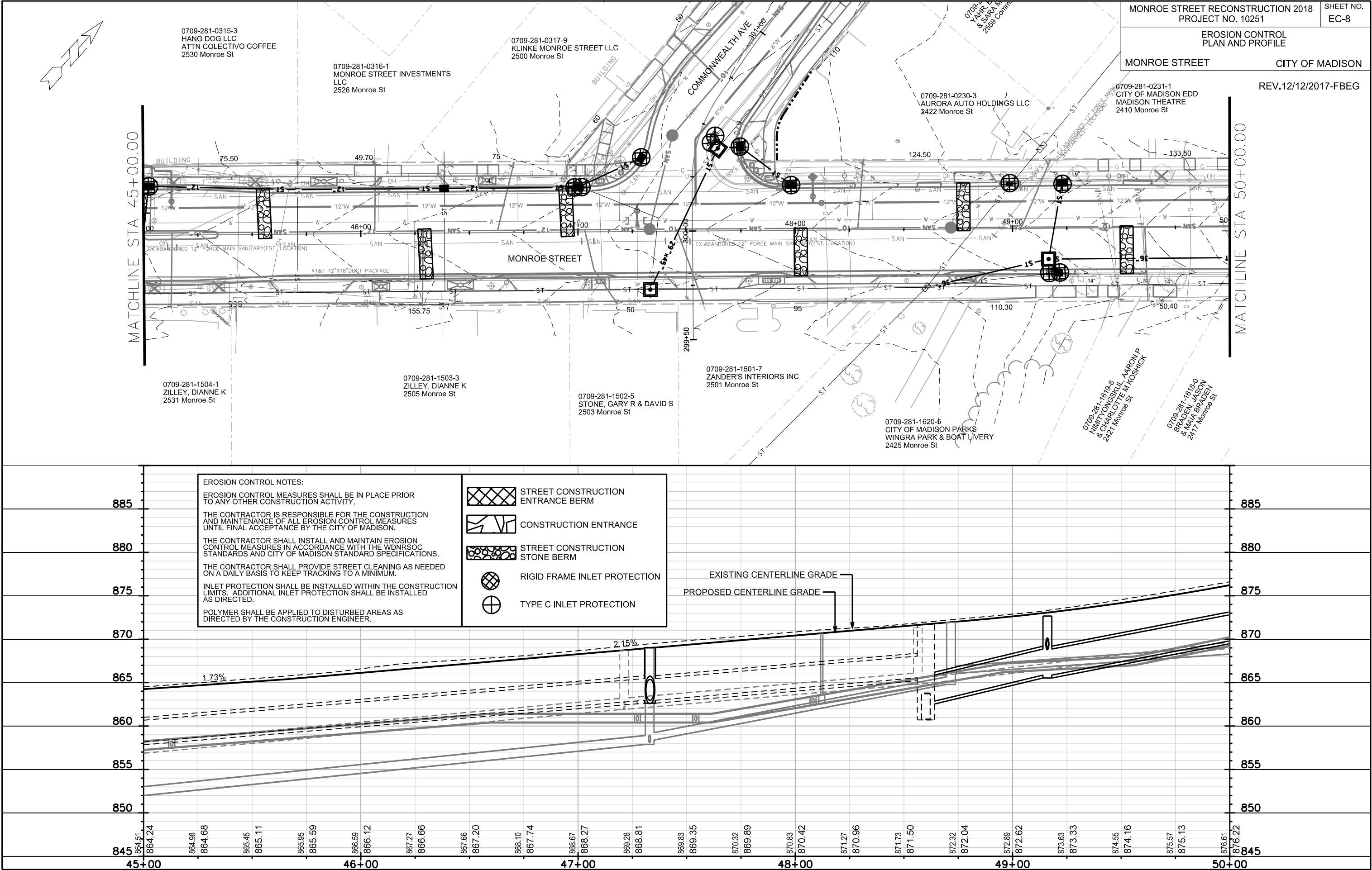
ORIGINATOR: CITY OF MADISON, STREETS DIVISION

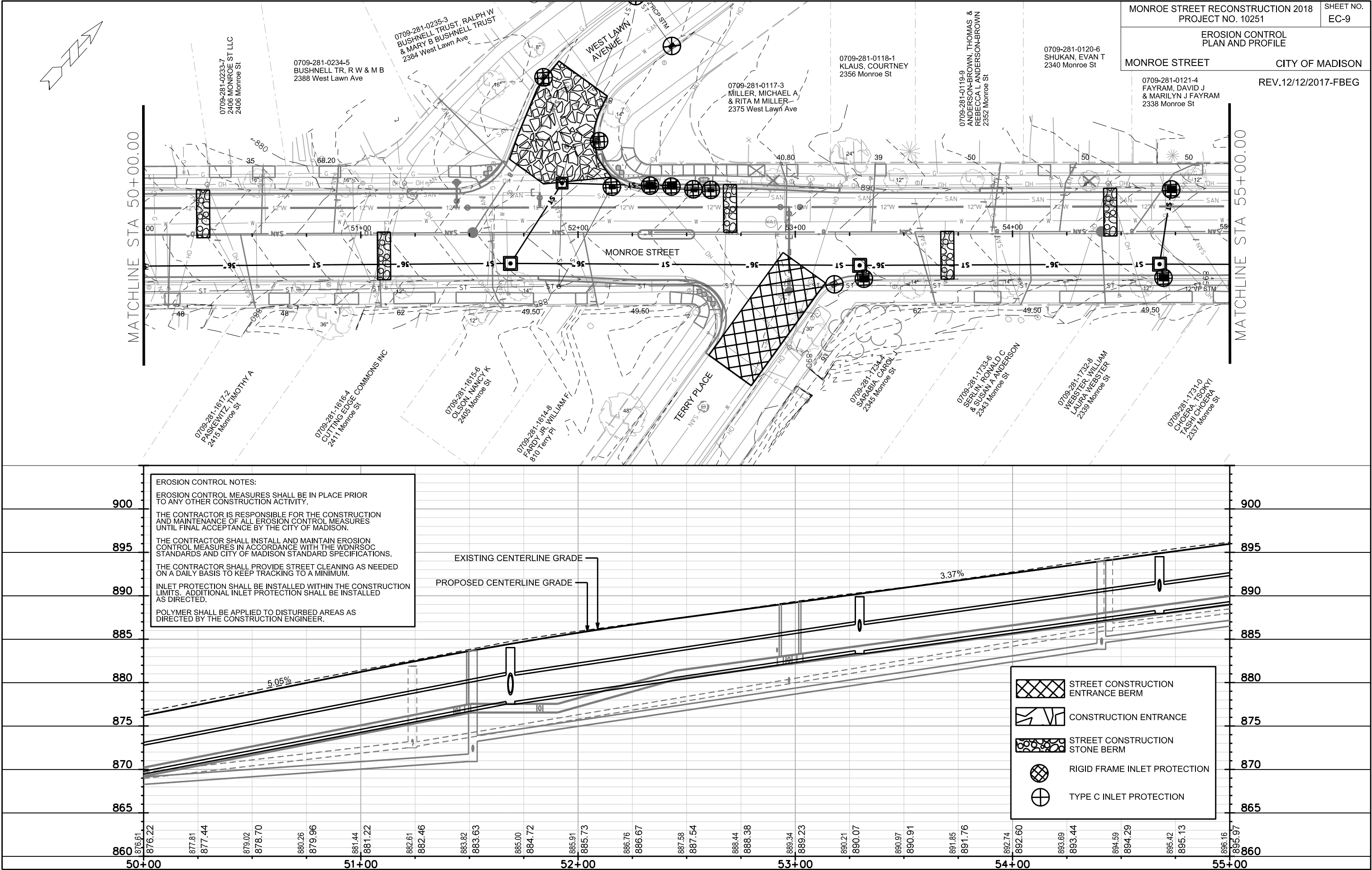












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BUSHNELL TR. R W & M B  
2406 Monroe St

0709-281-0234-5  
BUSHNELL TR. R W & M B  
2388 West Lawn Ave

0709-281-0235-3  
BUSHNELL TR. R W & M B  
2384 West Lawn Ave

0709-281-0117-3  
MILLER, MICHAEL A  
& RITA M MILLER  
2375 West Lawn Ave

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KLAUS, COURTNEY  
2356 Monroe St

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ANDERSON, THOMAS &  
REBECCA L ANDERSON-BROWN  
2352 Monroe St

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SHUKAN, EVAN T  
2340 Monroe St

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FAYRAM, DAVID J  
& MARILYN J FAYRAM  
2338 Monroe St

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PASKIEWITZ, TIMOTHY A  
2416 Monroe St

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CUTTING EDGE COMMONS INC  
2411 Monroe St

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OLSON, NANCY K  
2406 Monroe St

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FARDY JR, WILLIAM F  
810 Terry Pl

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SARAJALA, CAROL L  
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SERLIN, RONALD C  
& SUSAN A ANDERSON  
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WEBSTER, WILLIAM  
LAURA WEBSTER  
2339 Monroe St

0709-281-1731-0  
CHOERA, TSOKYI  
TASHI CHOERA  
2337 Monroe St

MONROE STREET

TERRY PLACE

WEST LAWN AVENUE

50+00

51+00

52+00

53+00

54+00

55+00

860

865

870

875

880

885

890

895

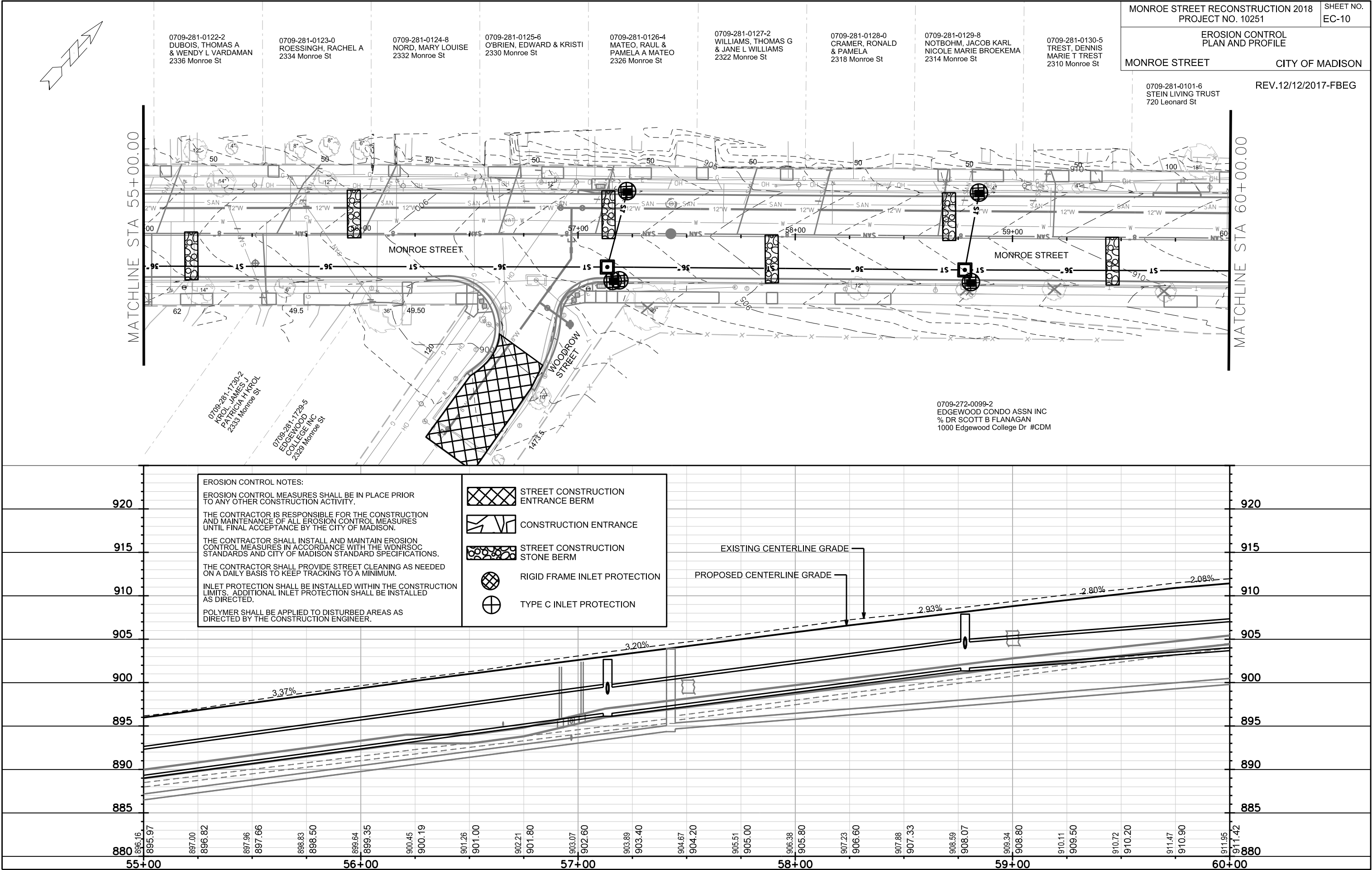
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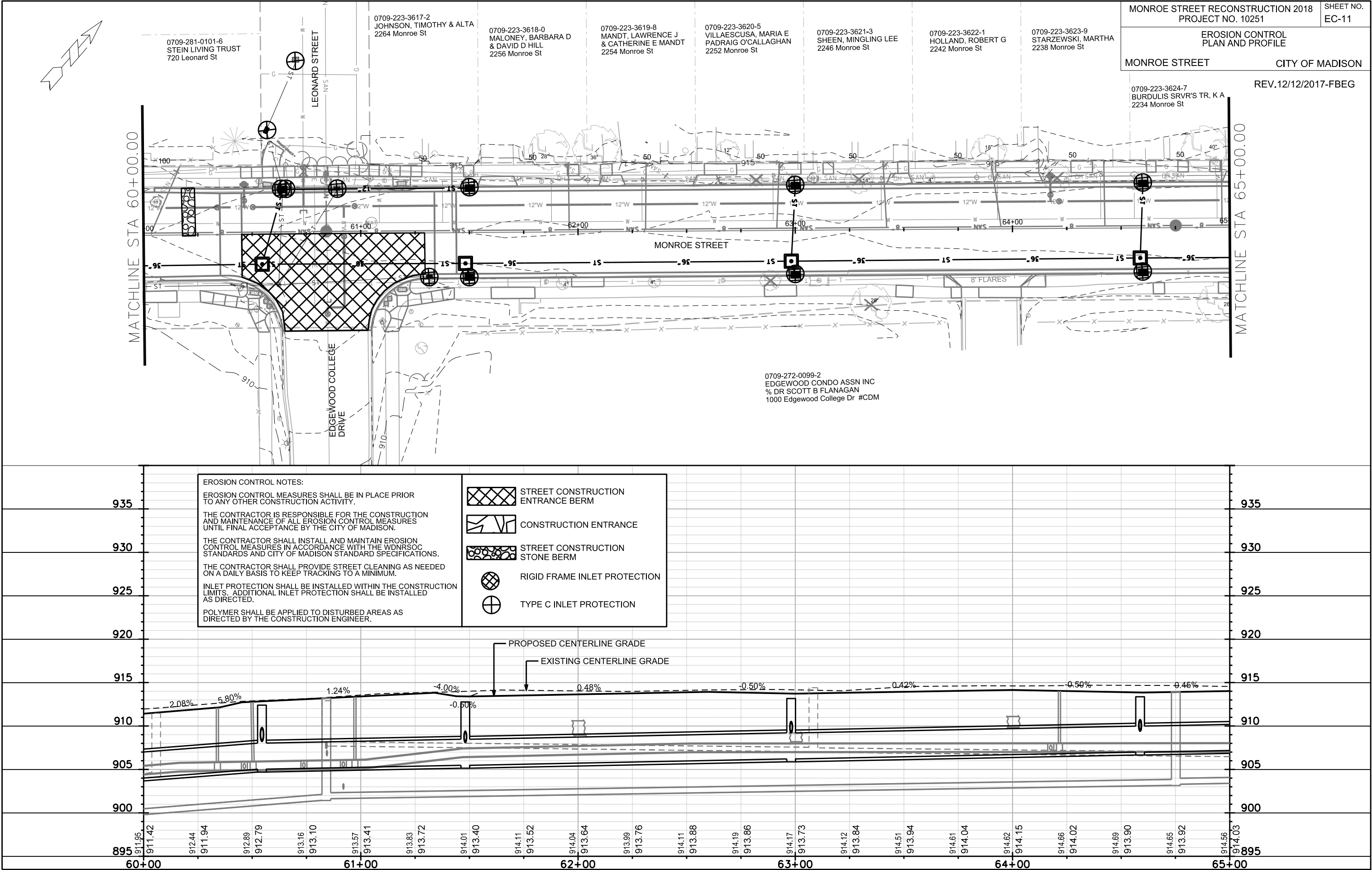
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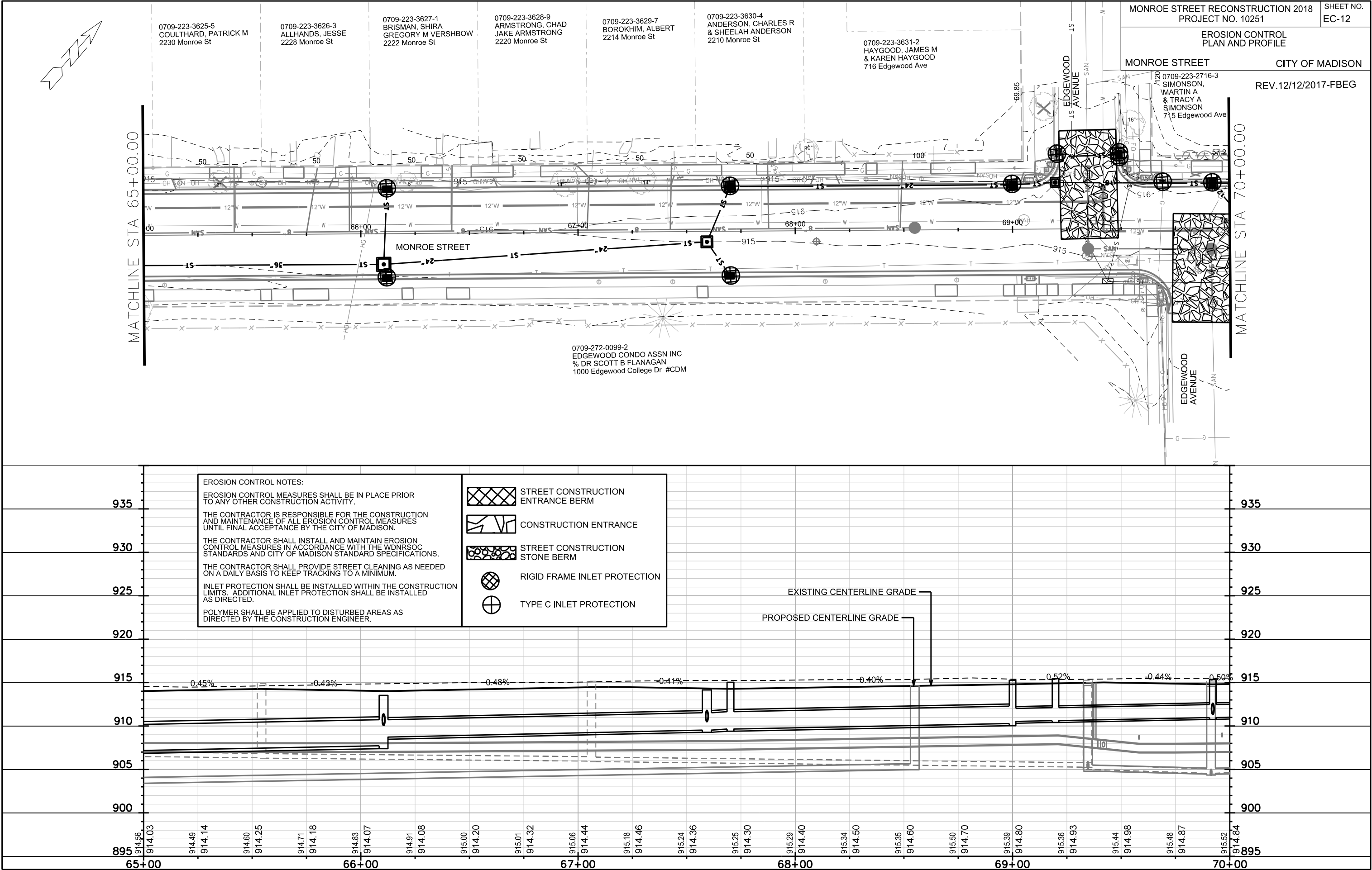
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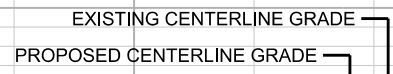
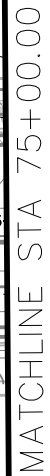
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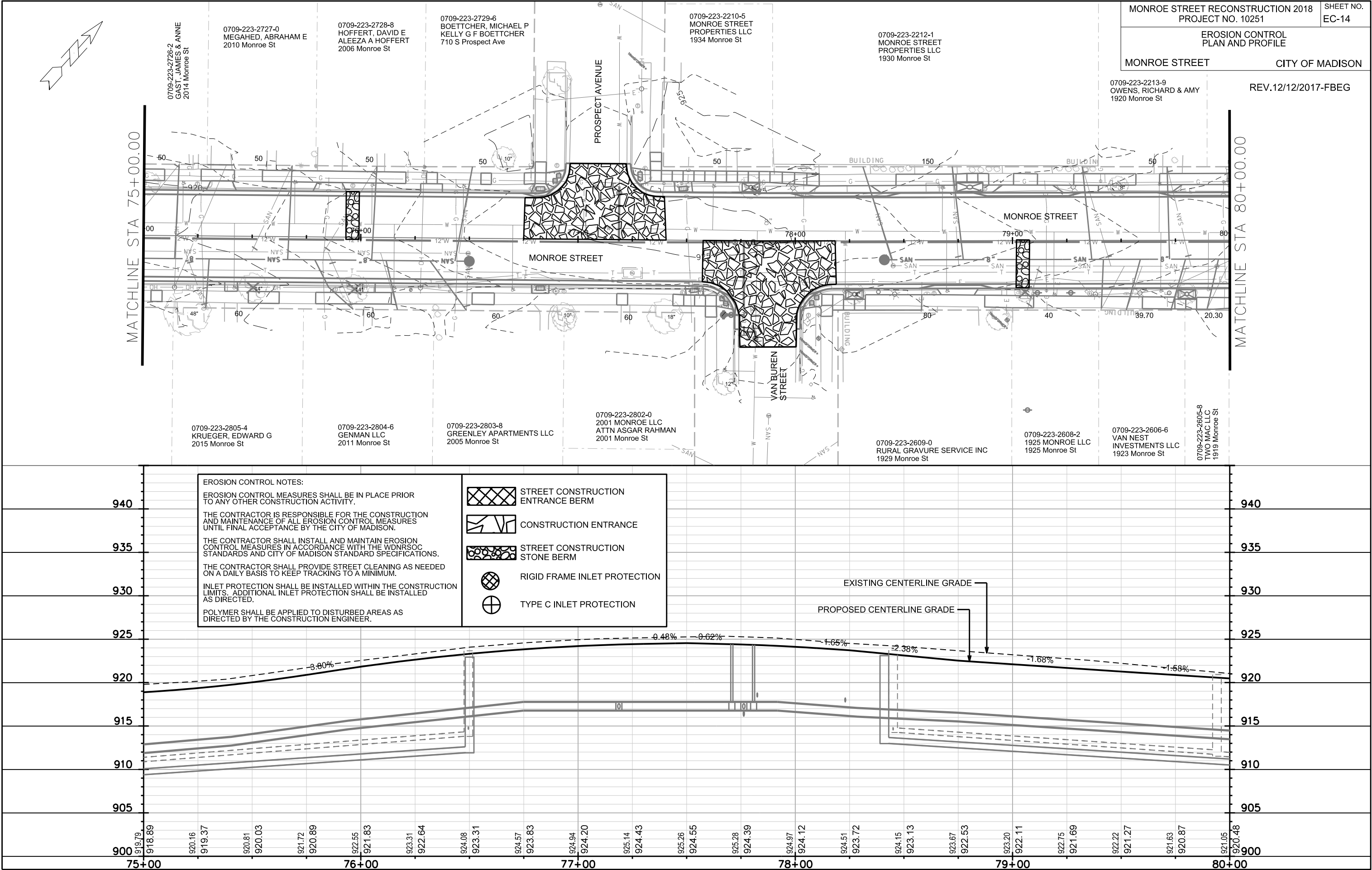
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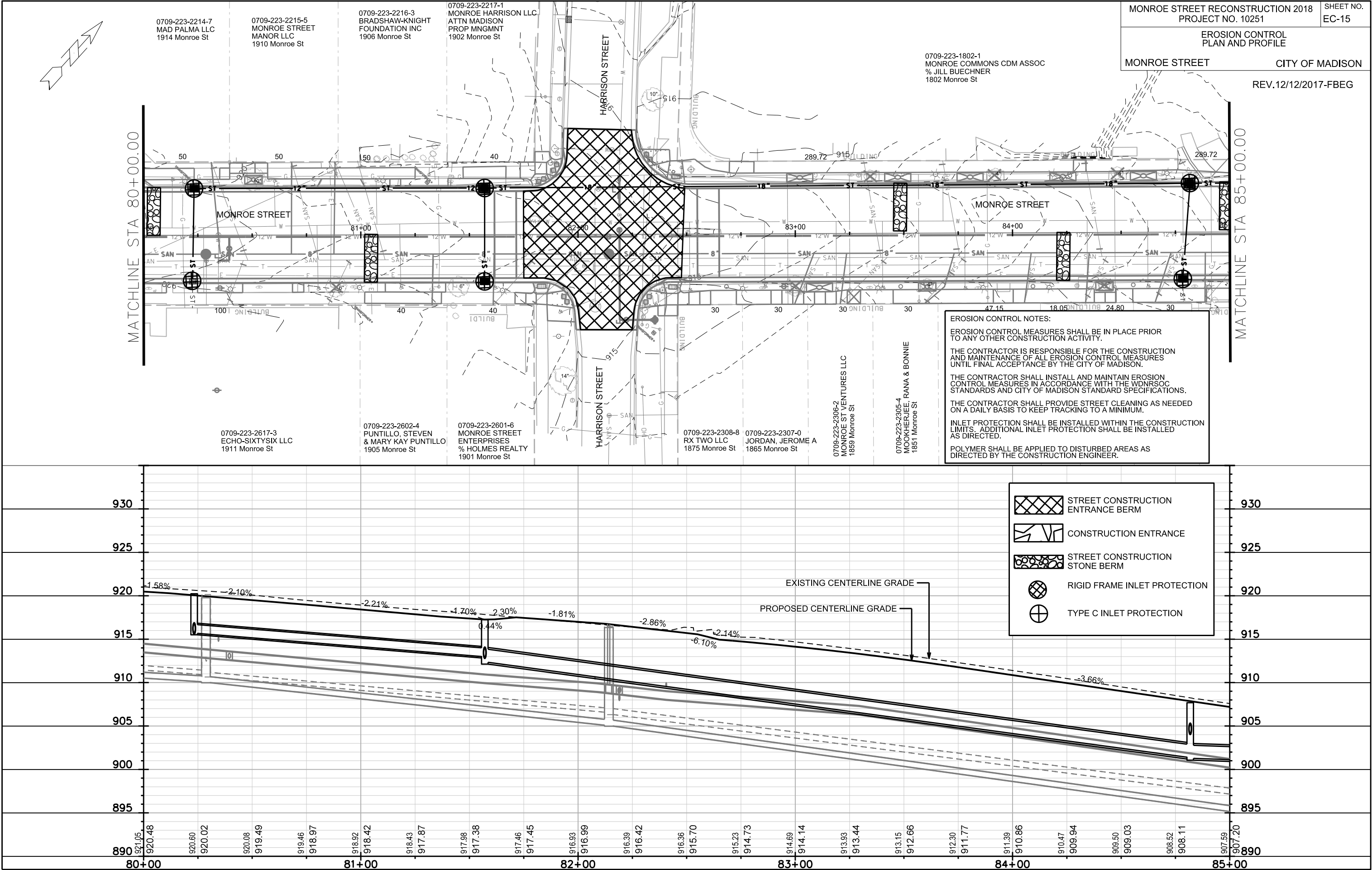




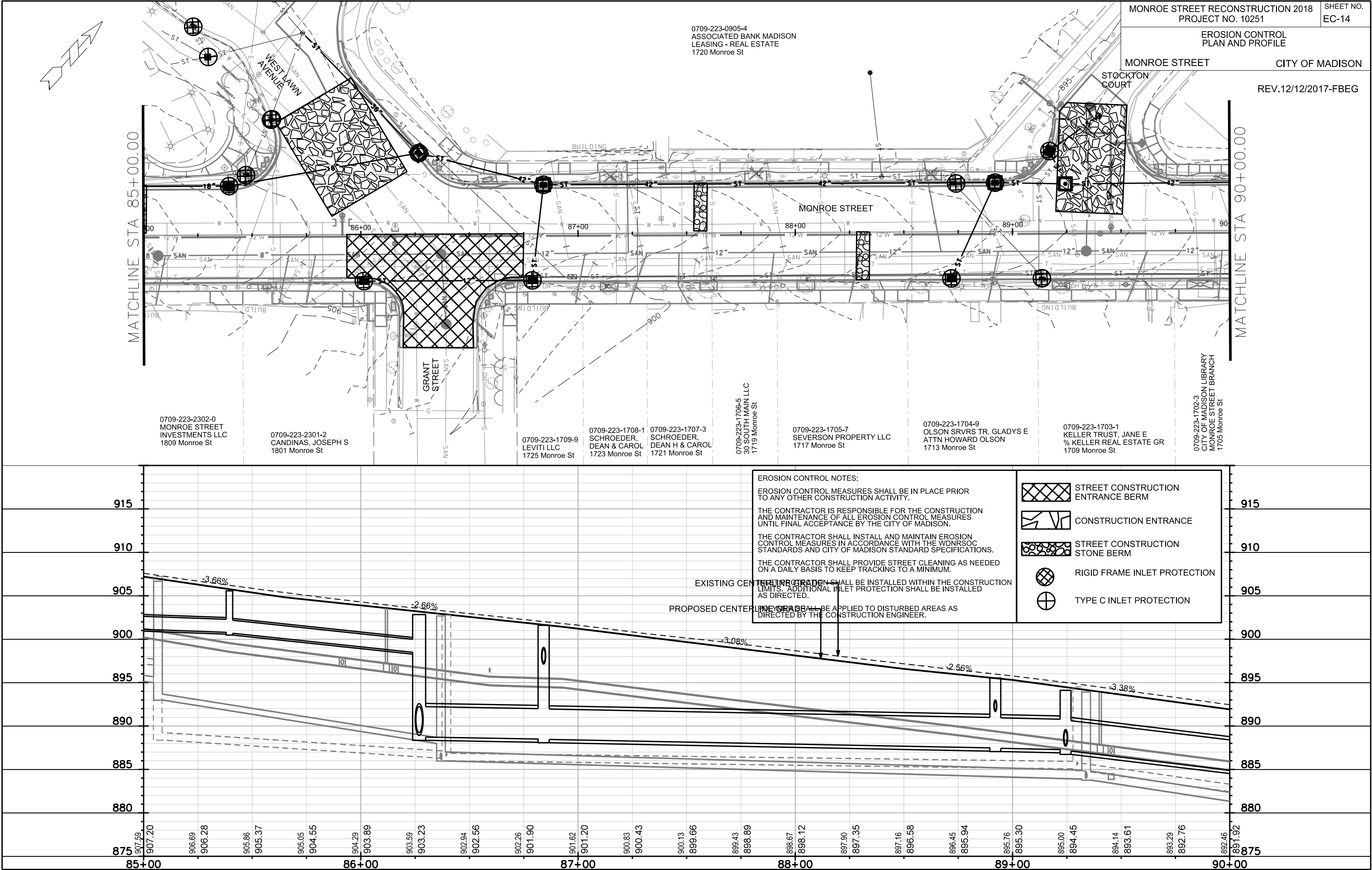












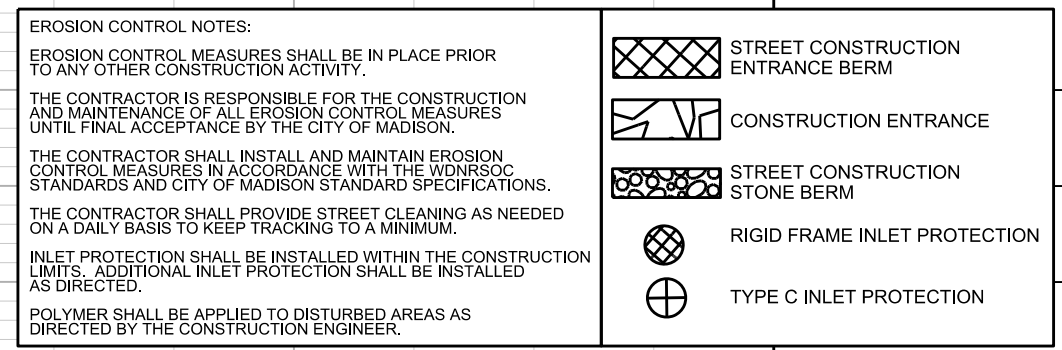
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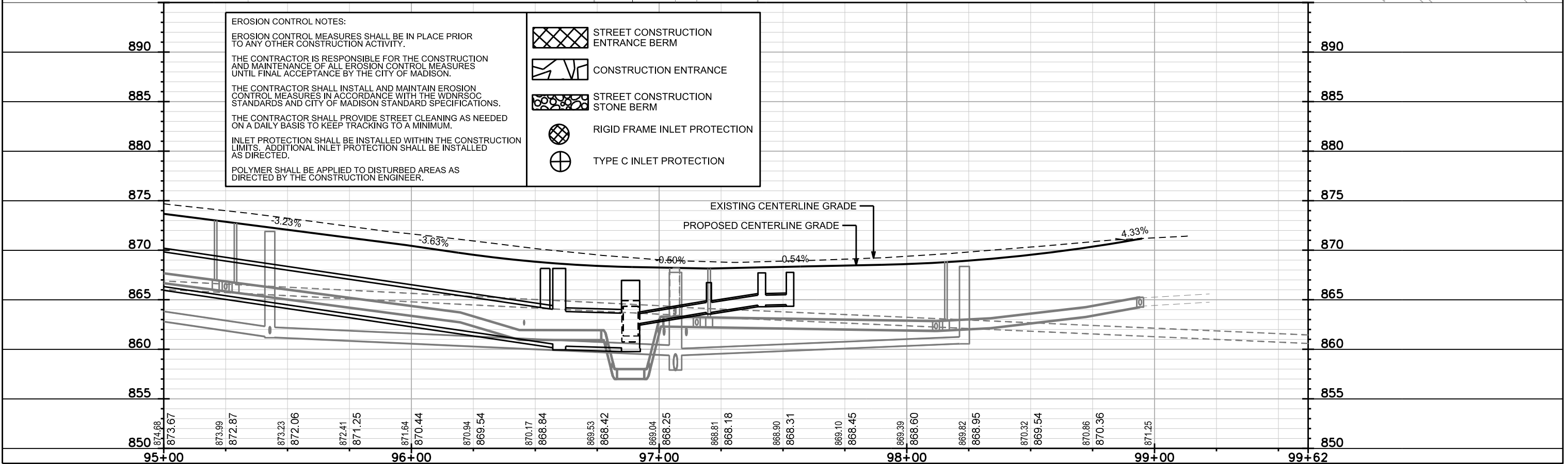
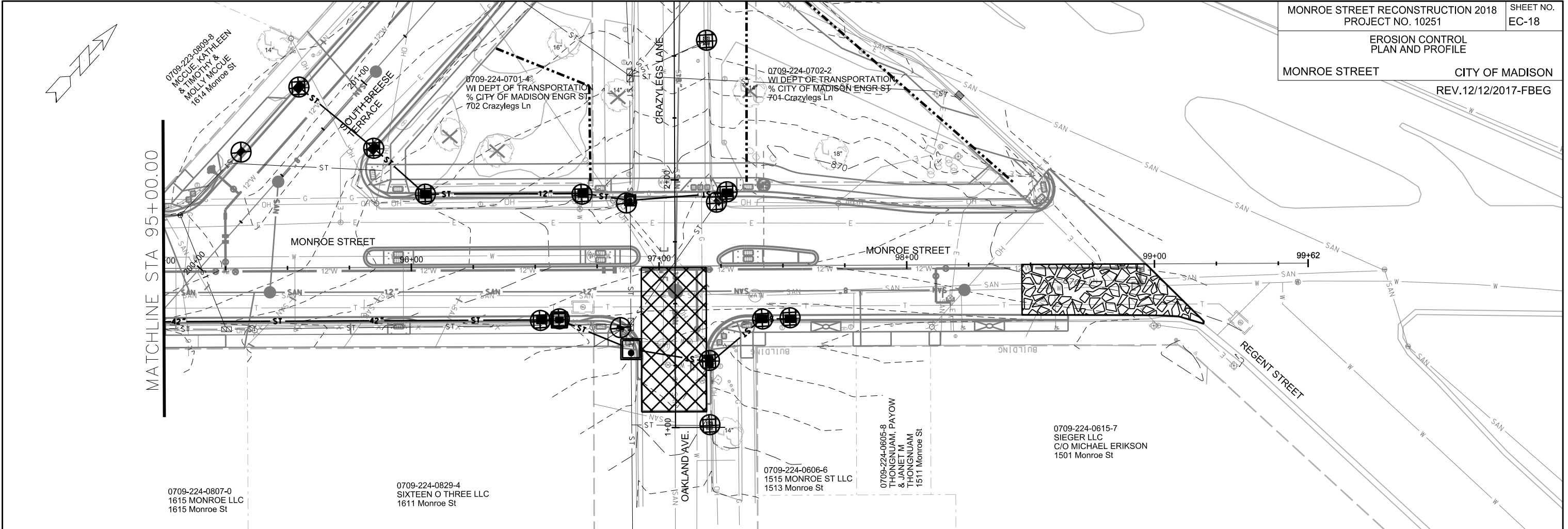
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REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

0709-223-0809-8  
MCCUE, KATHLEEN A  
& TIMOTHY & MOLLY MCCUE  
1614 Monroe St





EROSION CONTROL NOTES:  
EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY.  
THE CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL FINAL ACCEPTANCE BY THE CITY OF MADISON.  
THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE WDNR SOC STANDARDS AND CITY OF MADISON STANDARD SPECIFICATIONS.  
THE CONTRACTOR SHALL PROVIDE STREET CLEANING AS NEEDED ON A DAILY BASIS TO KEEP TRACKING TO A MINIMUM.  
INLET PROTECTION SHALL BE INSTALLED WITHIN THE CONSTRUCTION LIMITS. ADDITIONAL INLET PROTECTION SHALL BE INSTALLED AS DIRECTED.  
POLYMER SHALL BE APPLIED TO DISTURBED AREAS AS DIRECTED BY THE CONSTRUCTION ENGINEER.

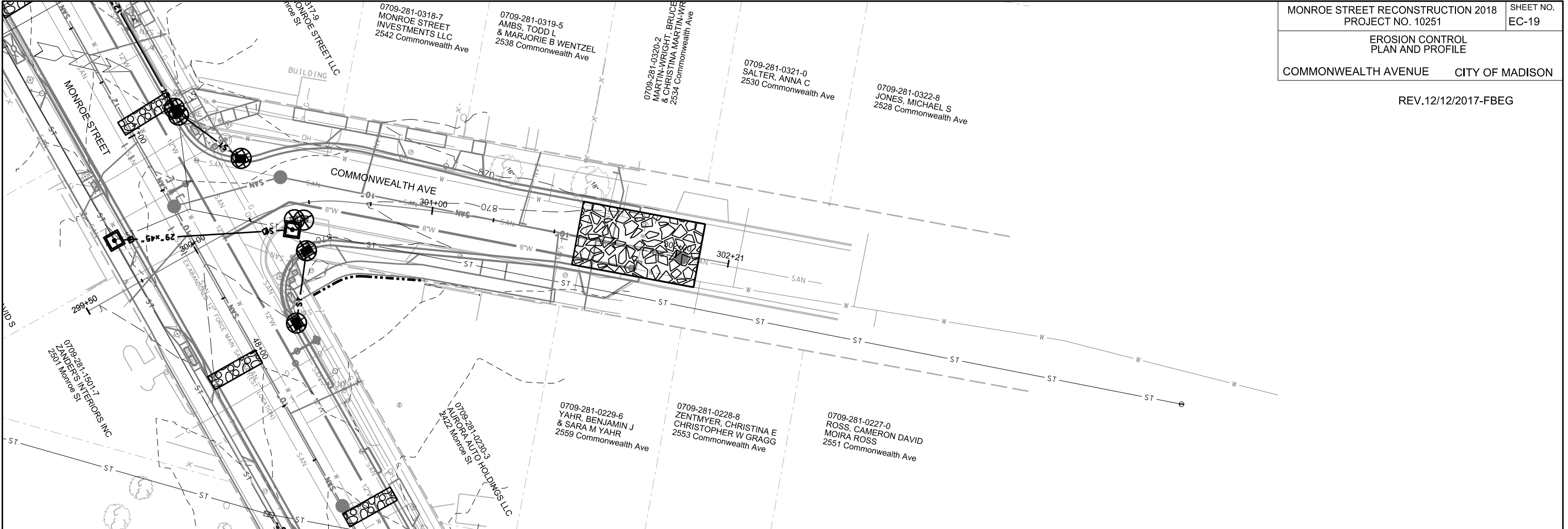
STREET CONSTRUCTION ENTRANCE BERM

CONSTRUCTION ENTRANCE

STREET CONSTRUCTION STONE BERM

RIGID FRAME INLET PROTECTION

TYPE C INLET PROTECTION

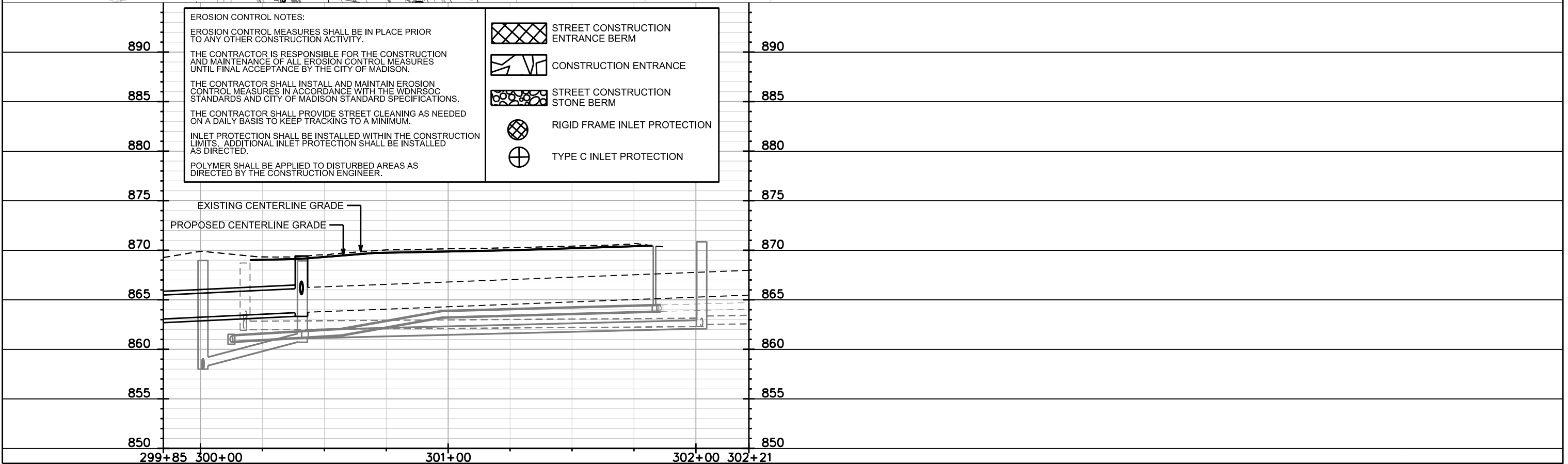


MONROE STREET RECONSTRUCTION 2018  
PROJECT NO. 10251

EROSION CONTROL  
PLAN AND PROFILE

COMMONWEALTH AVENUE CITY OF MADISON

REV.12/12/2017-FBEG



**EROSION CONTROL NOTES:**

EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY.

THE CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL FINAL ACCEPTANCE BY THE CITY OF MADISON.

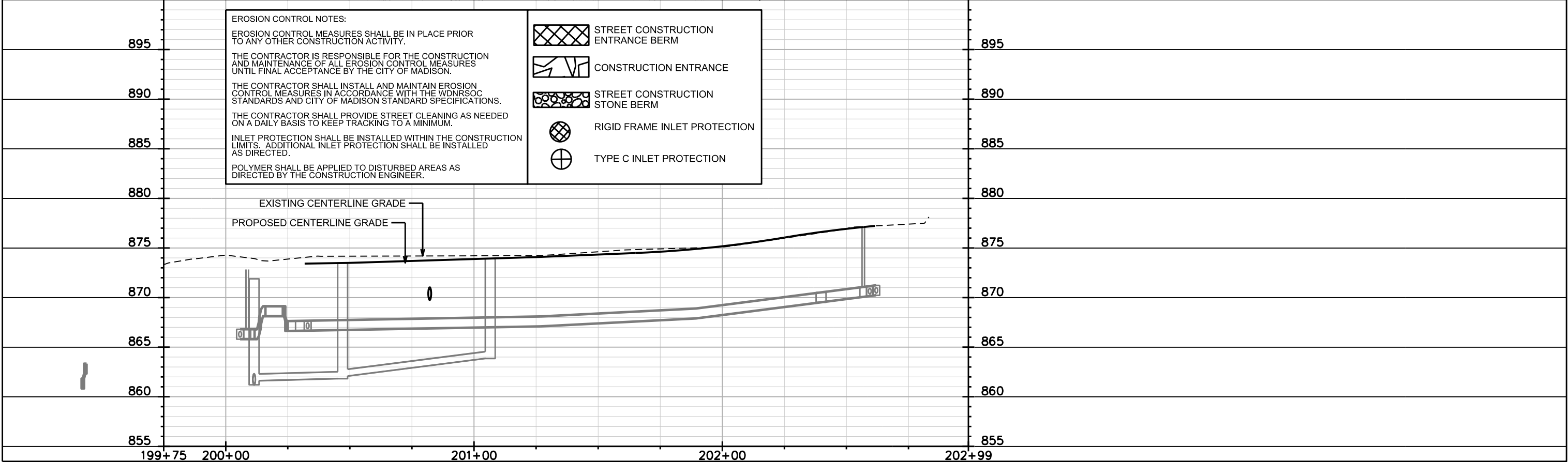
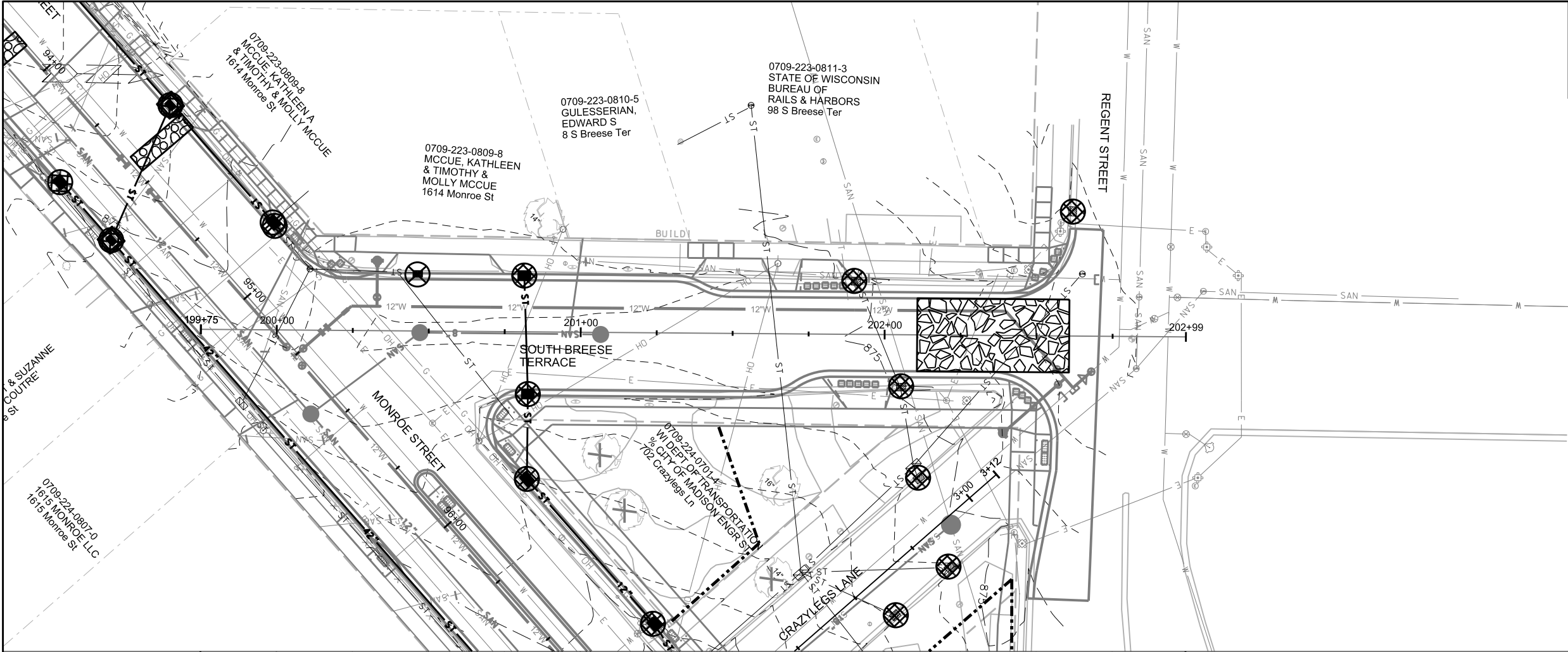
THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE WDNR SOC STANDARDS AND CITY OF MADISON STANDARD SPECIFICATIONS.

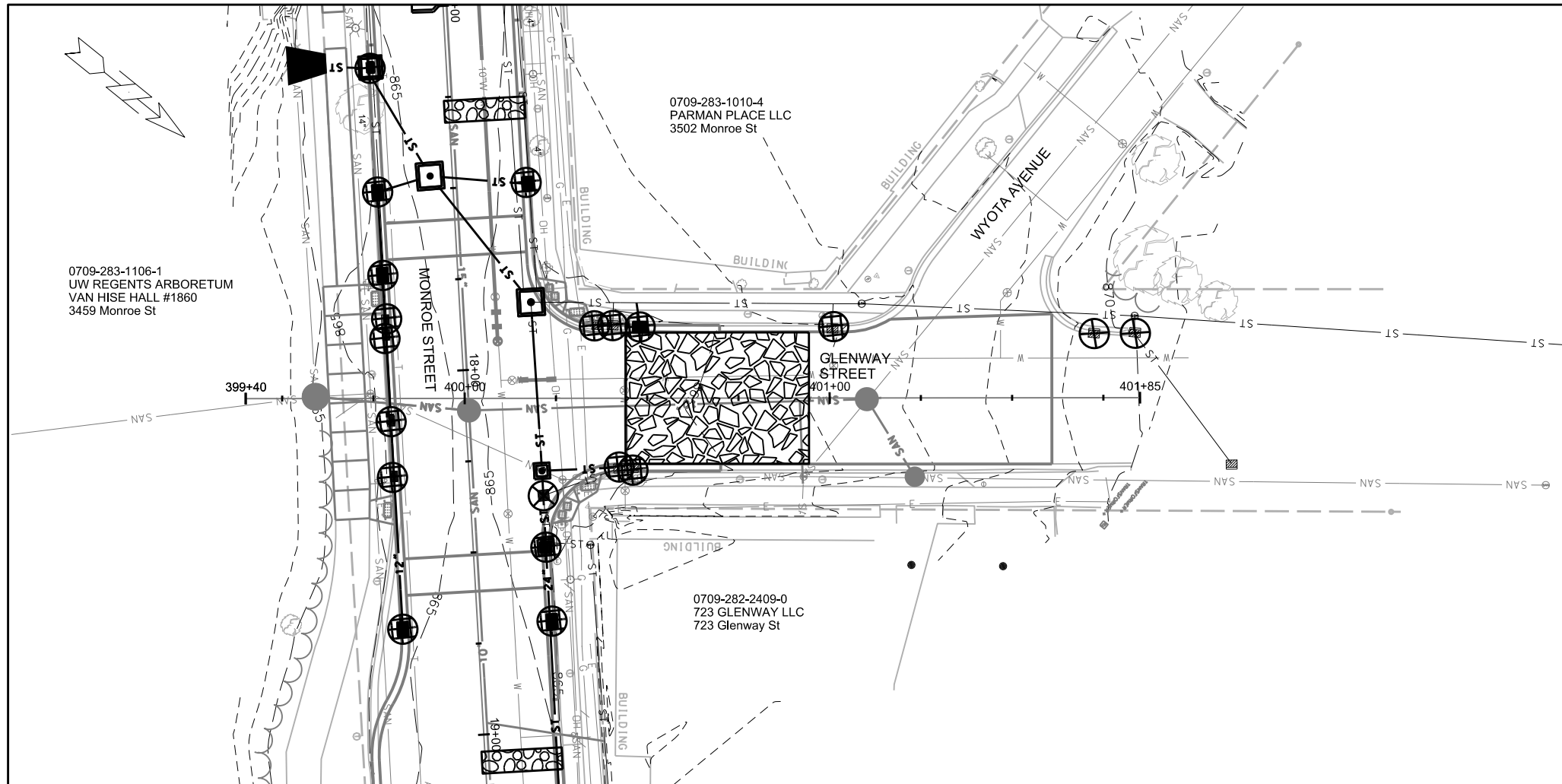
THE CONTRACTOR SHALL PROVIDE STREET CLEANING AS NEEDED ON A DAILY BASIS TO KEEP TRACKING TO A MINIMUM.

INLET PROTECTION SHALL BE INSTALLED WITHIN THE CONSTRUCTION LIMITS. ADDITIONAL INLET PROTECTION SHALL BE INSTALLED AS DIRECTED.

POLYMER SHALL BE APPLIED TO DISTURBED AREAS AS DIRECTED BY THE CONSTRUCTION ENGINEER.

	STREET CONSTRUCTION ENTRANCE BERM
	CONSTRUCTION ENTRANCE
	STREET CONSTRUCTION STONE BERM
	RIGID FRAME INLET PROTECTION
	TYPE C INLET PROTECTION





EROSION CONTROL NOTES:  
EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY.  
THE CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL FINAL ACCEPTANCE BY THE CITY OF MADISON.  
THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE WDNR SOC STANDARDS AND CITY OF MADISON STANDARD SPECIFICATIONS.  
THE CONTRACTOR SHALL PROVIDE STREET CLEANING AS NEEDED ON A DAILY BASIS TO KEEP TRACKING TO A MINIMUM.  
INLET PROTECTION SHALL BE INSTALLED WITHIN THE CONSTRUCTION LIMITS. ADDITIONAL INLET PROTECTION SHALL BE INSTALLED AS DIRECTED.  
POLYMER SHALL BE APPLIED TO DISTURBED AREAS AS DIRECTED BY THE CONSTRUCTION ENGINEER.

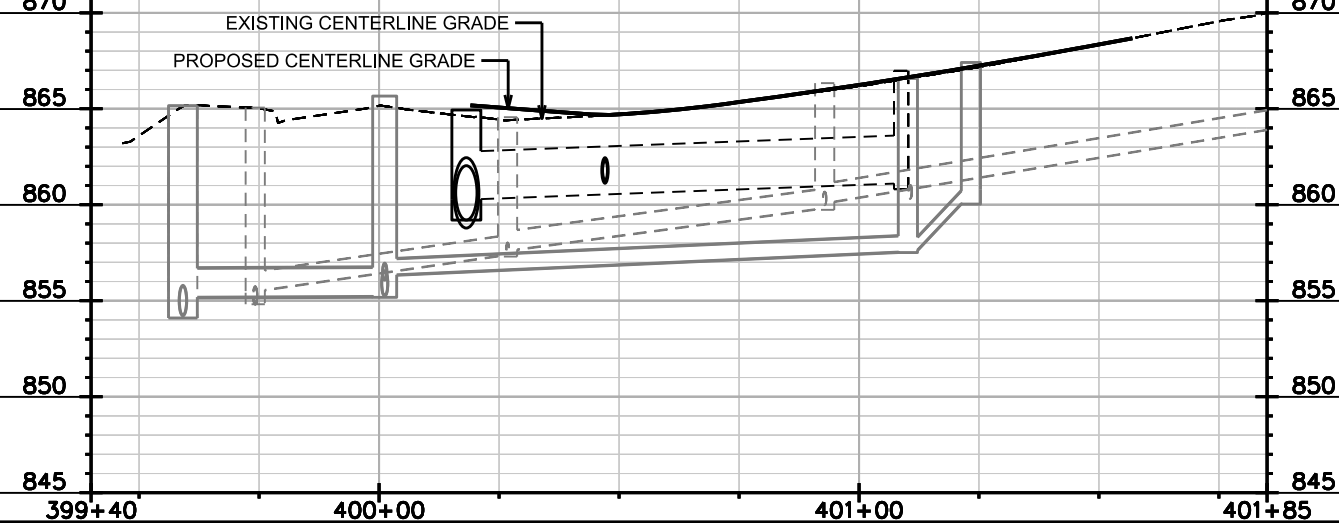
STREET CONSTRUCTION ENTRANCE BERM

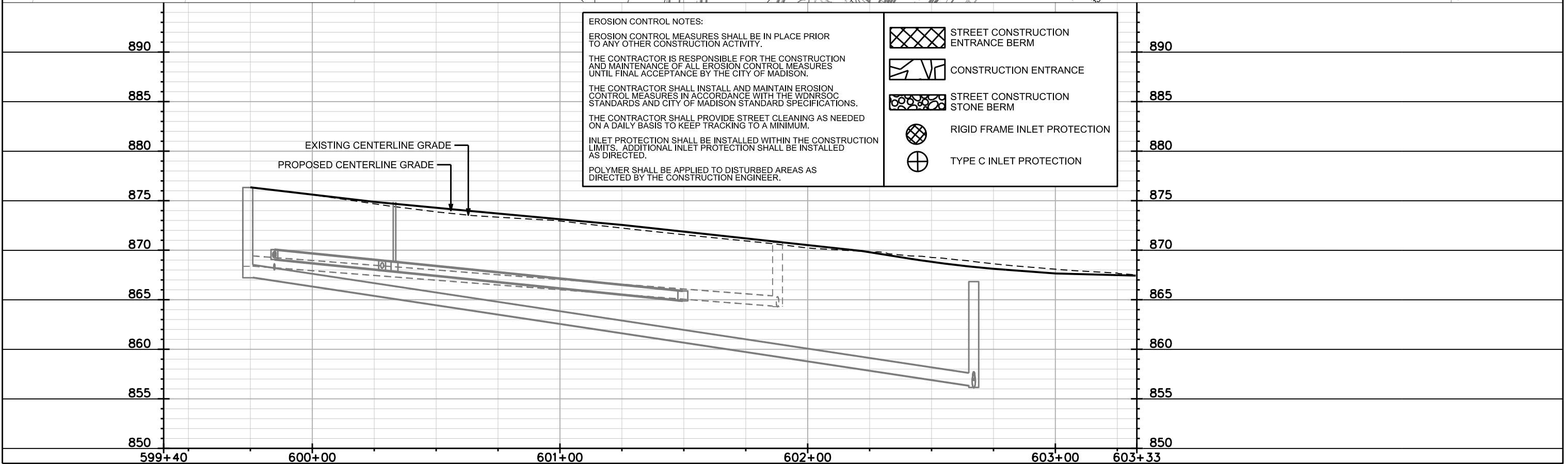
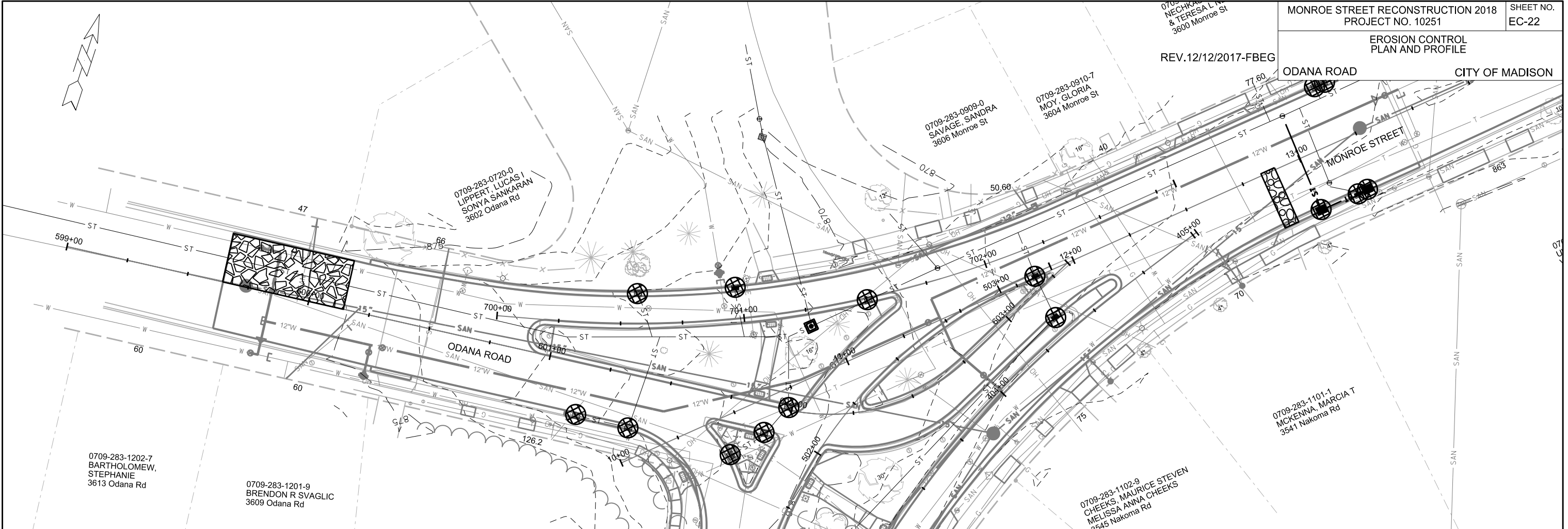
CONSTRUCTION ENTRANCE

STREET CONSTRUCTION STONE BERM

RIGID FRAME INLET PROTECTION

TYPE C INLET PROTECTION





**EROSION CONTROL NOTES:**

EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY.

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STREET CONSTRUCTION ENTRANCE BERM

CONSTRUCTION ENTRANCE

STREET CONSTRUCTION STONE BERM

RIGID FRAME INLET PROTECTION

TYPE C INLET PROTECTION

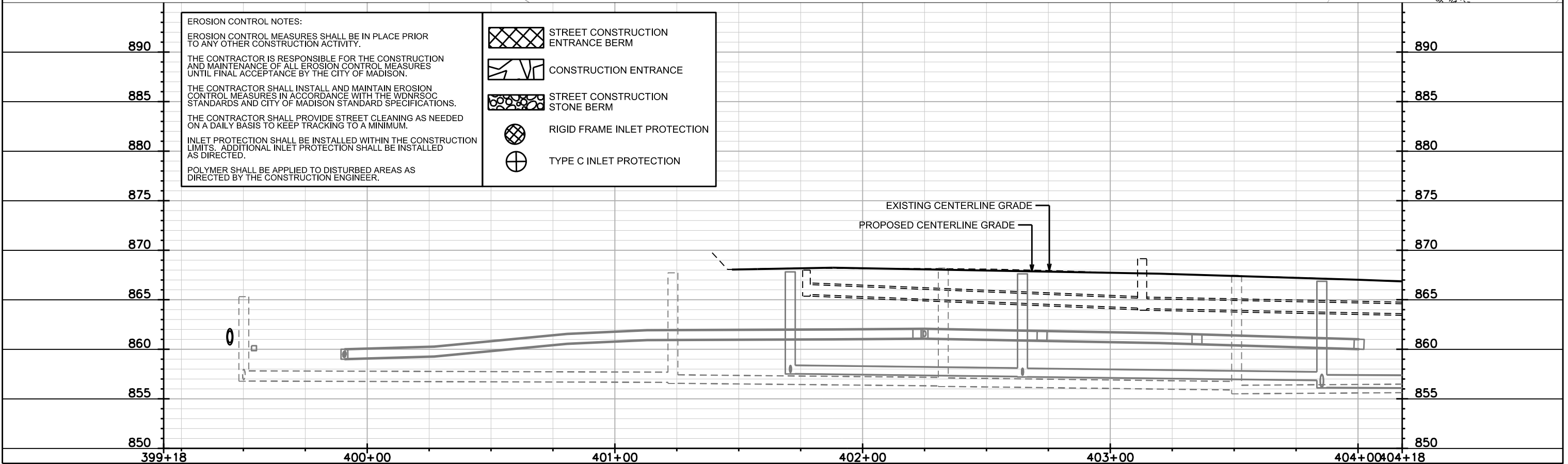
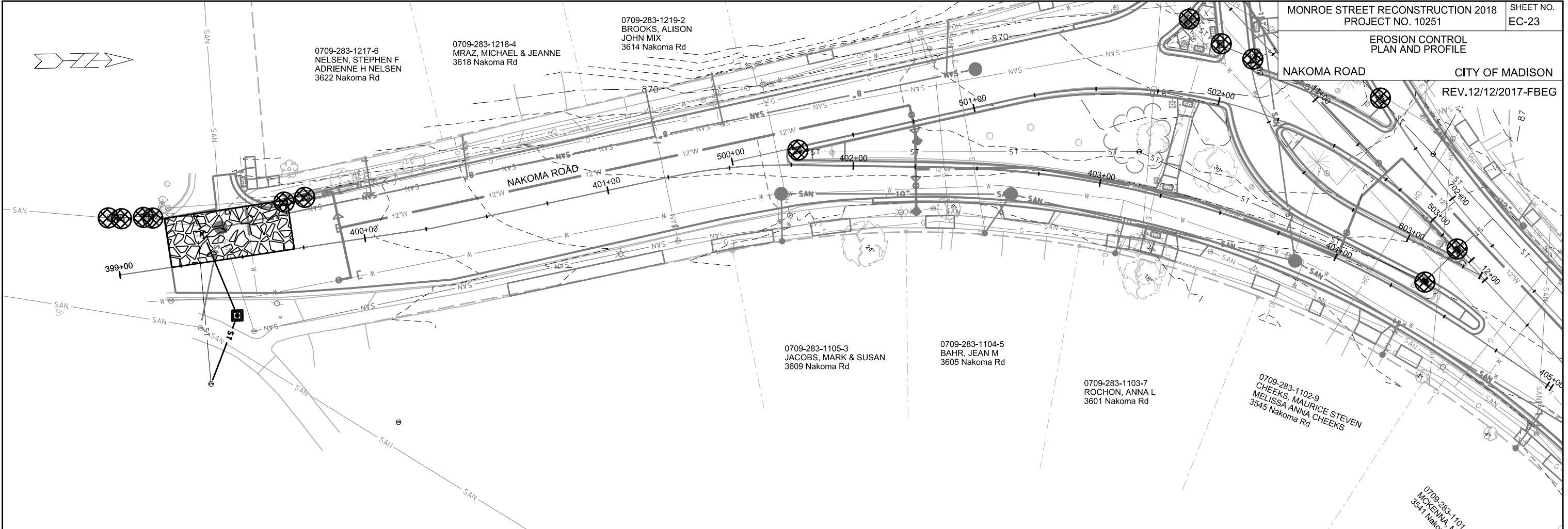
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PLOT NAME:

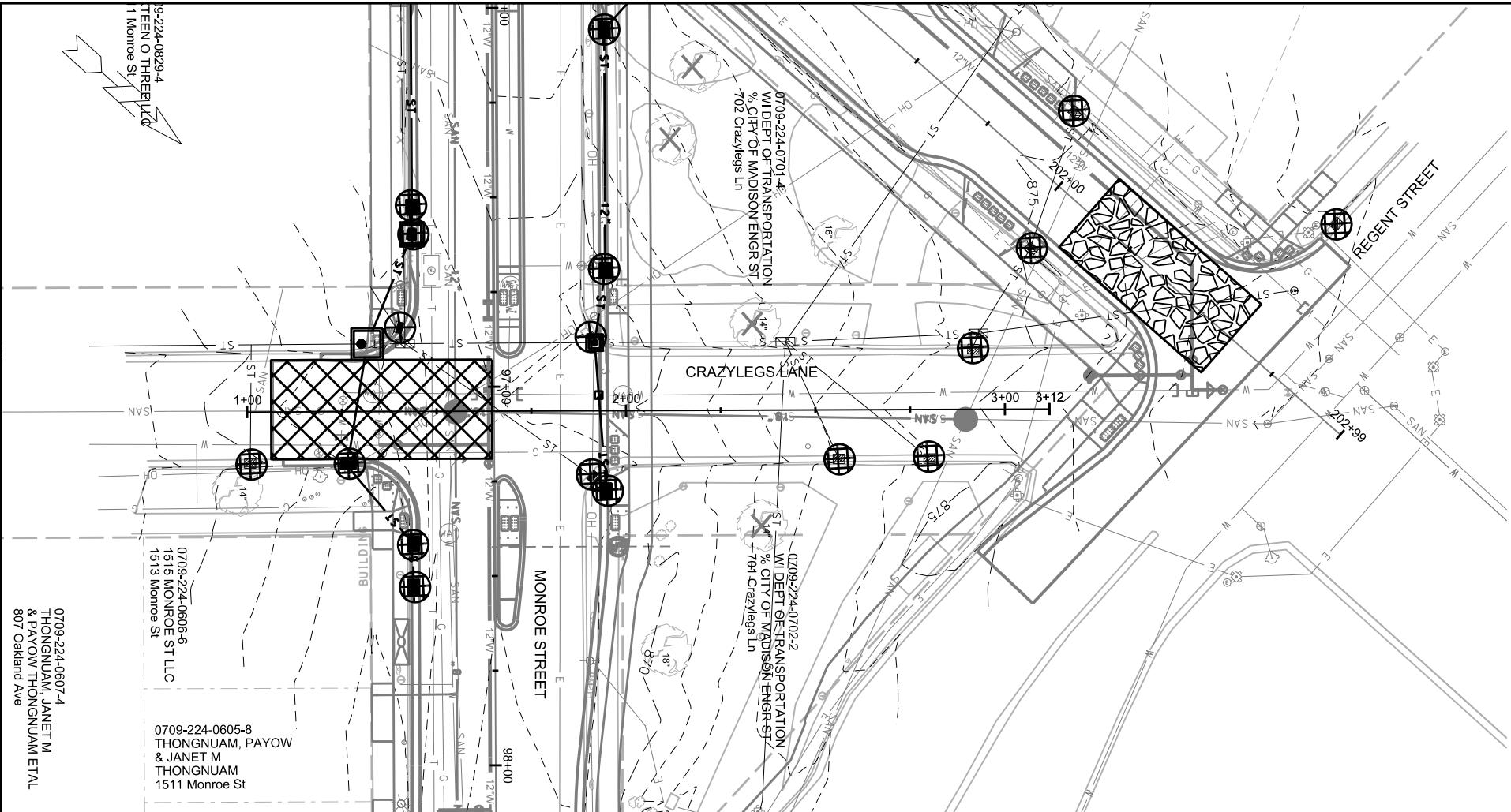
REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION









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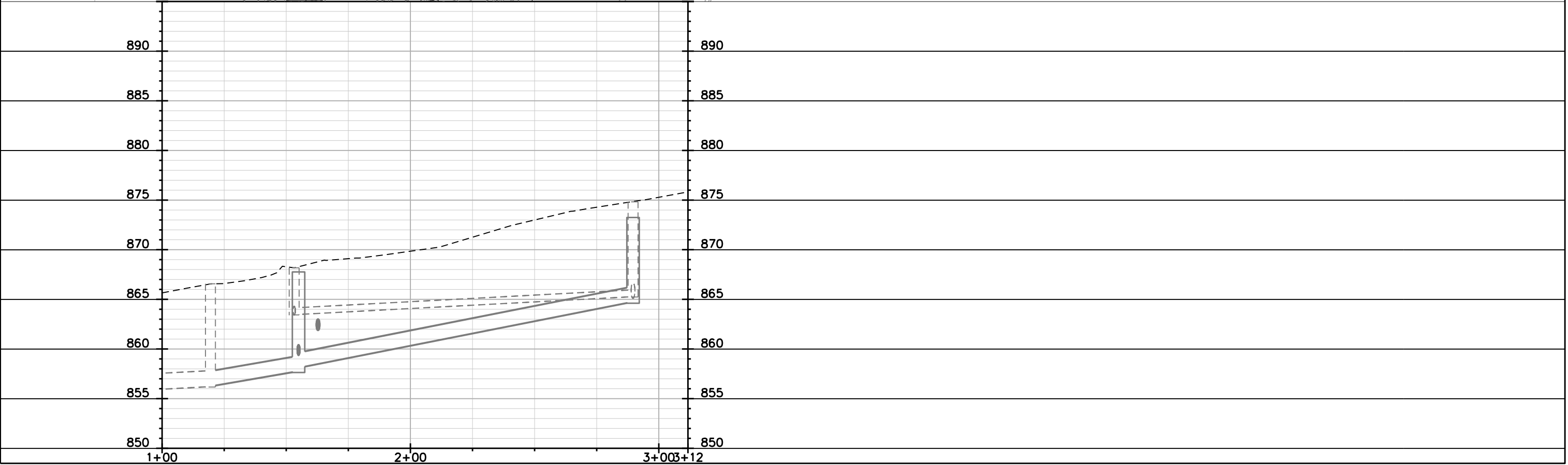
STREET CONSTRUCTION ENTRANCE BERM

CONSTRUCTION ENTRANCE

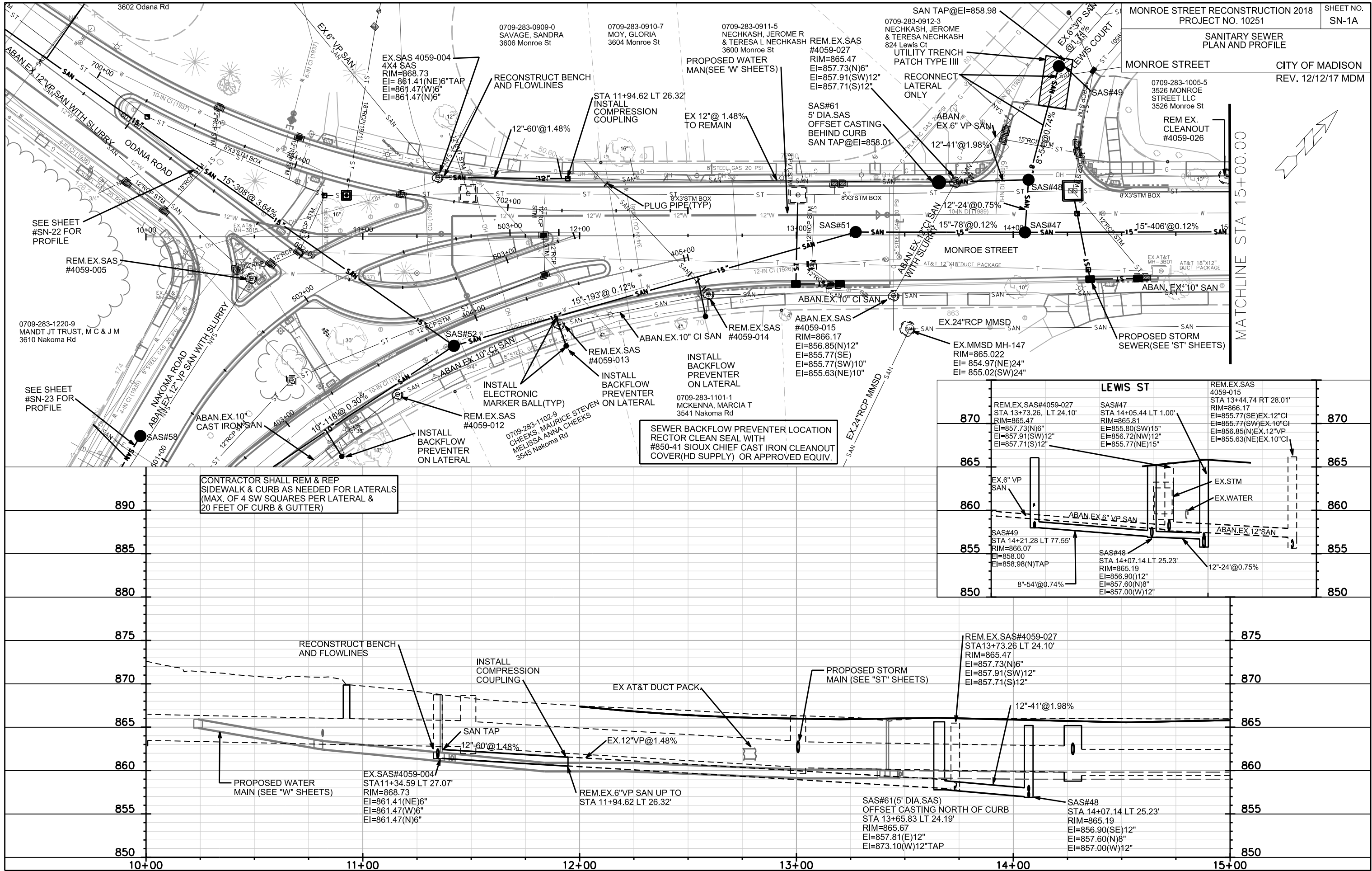
STREET CONSTRUCTION STONE BERM

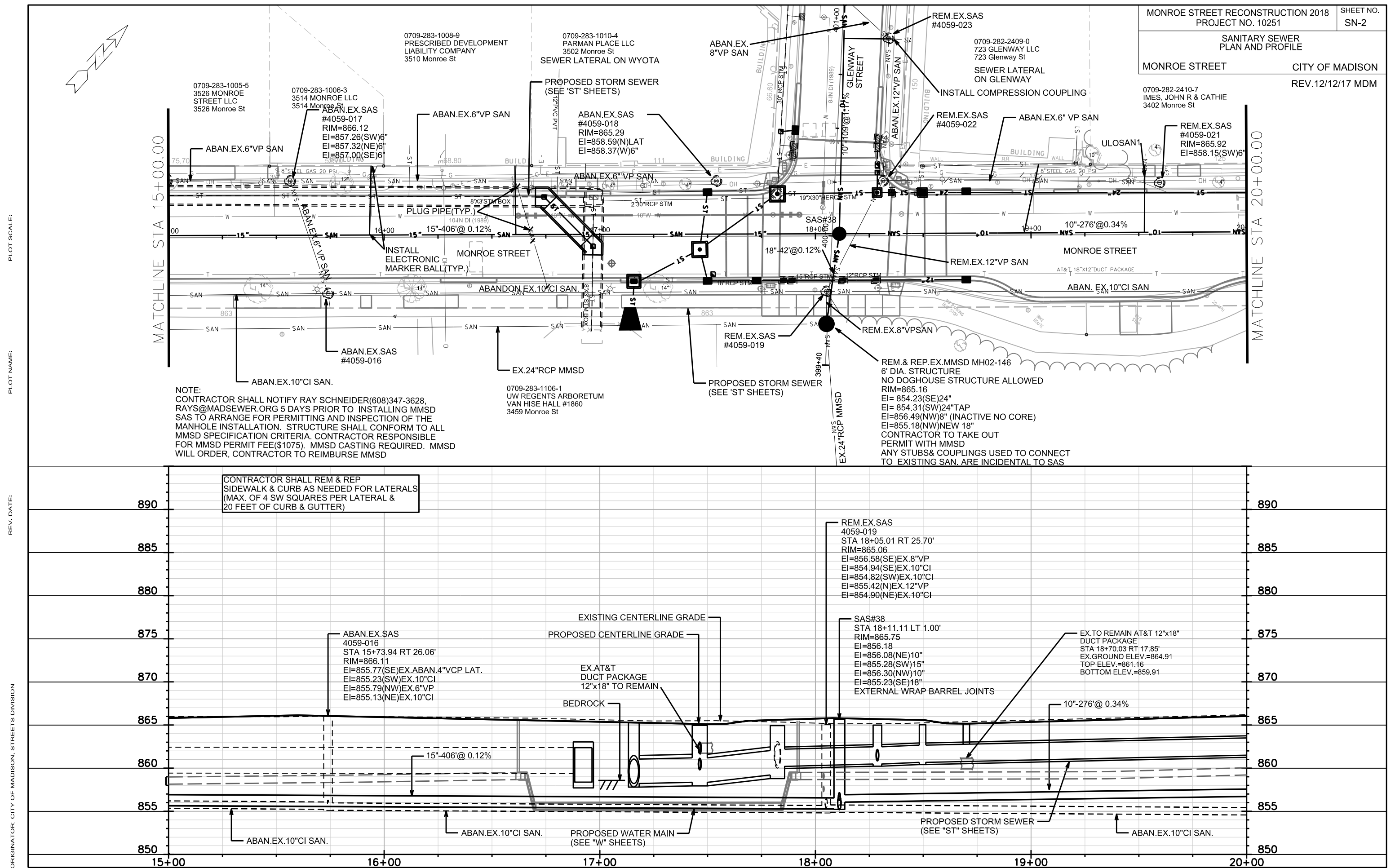
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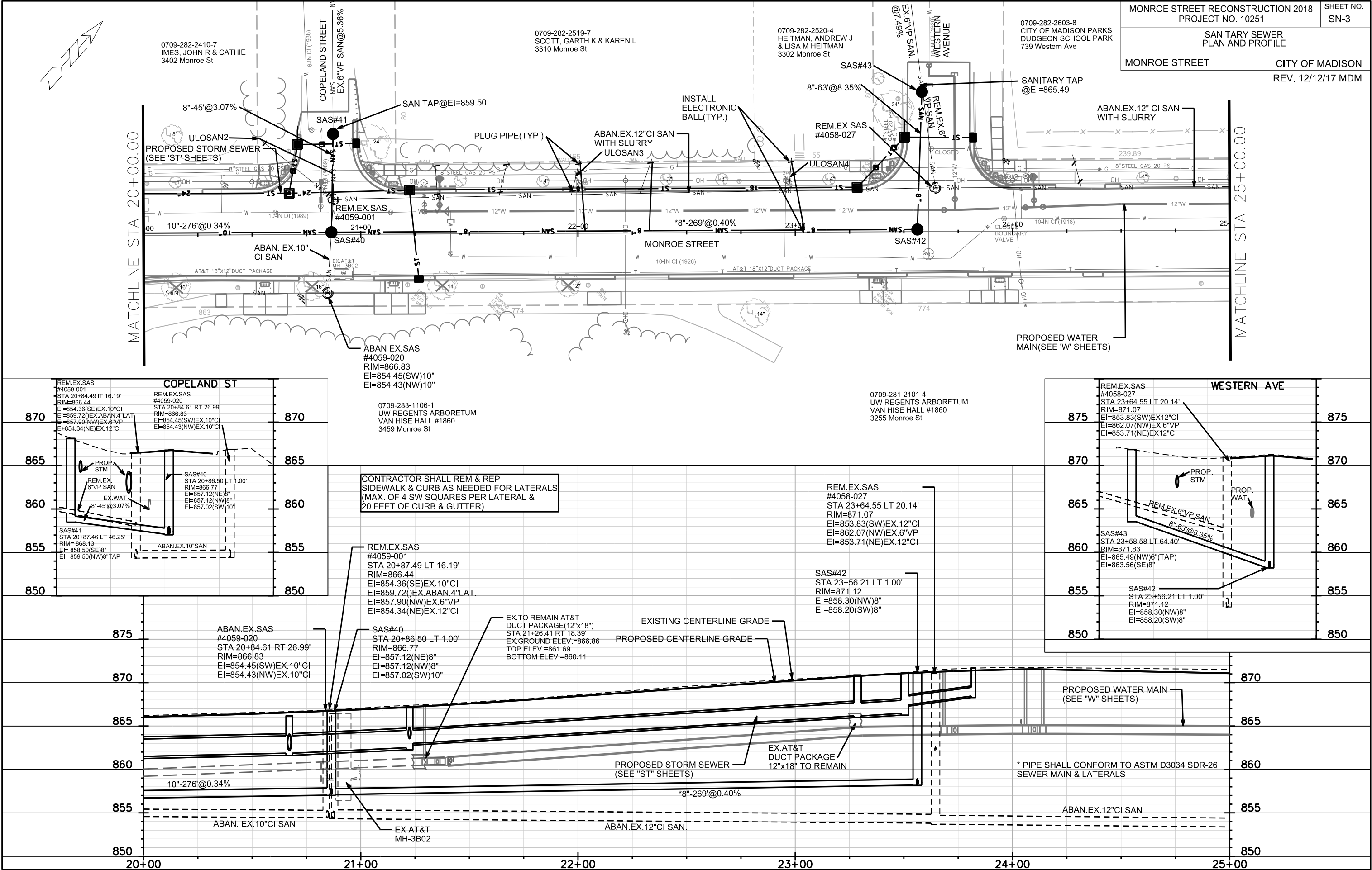
TYPE C INLET PROTECTION



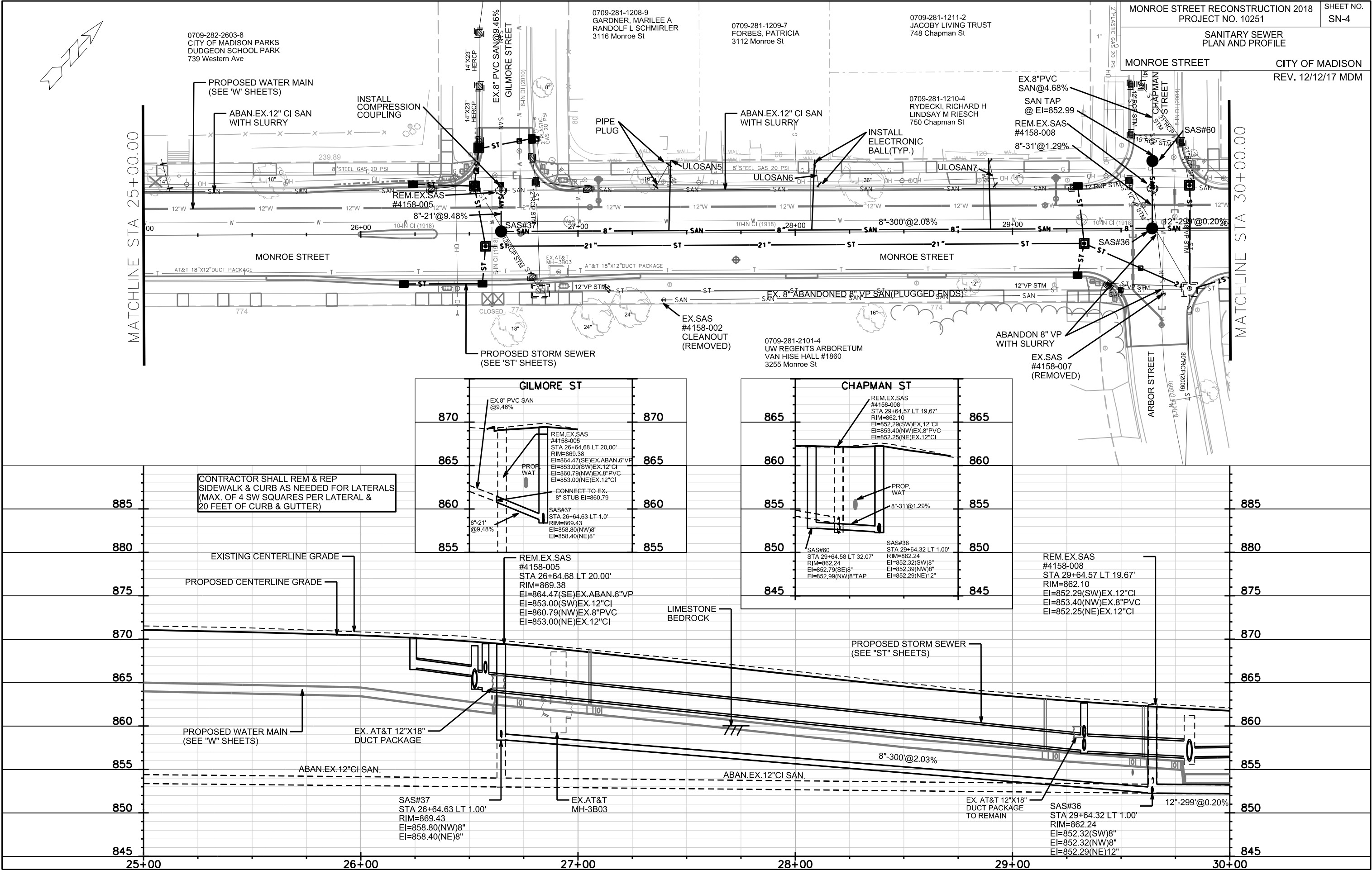




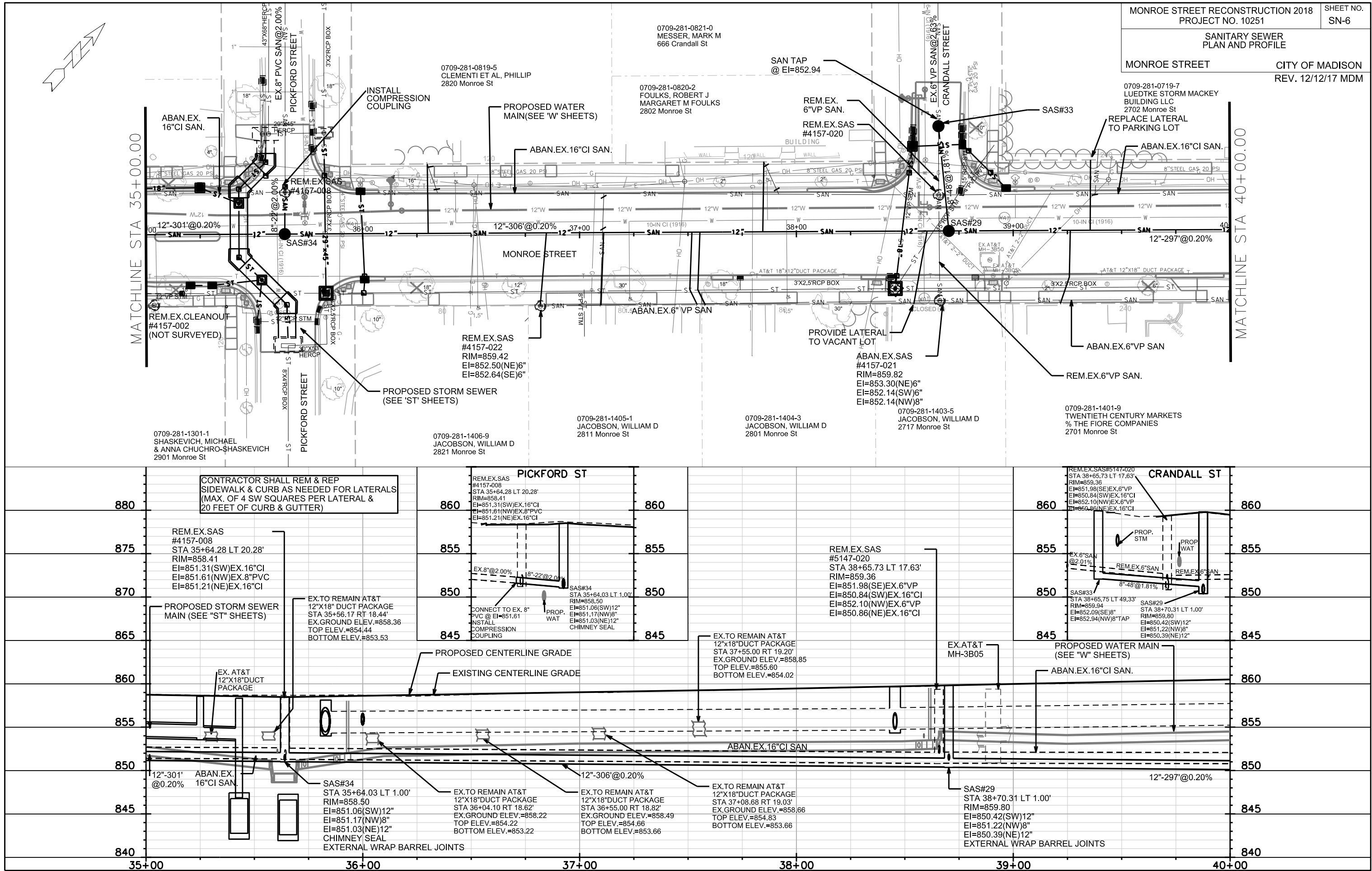




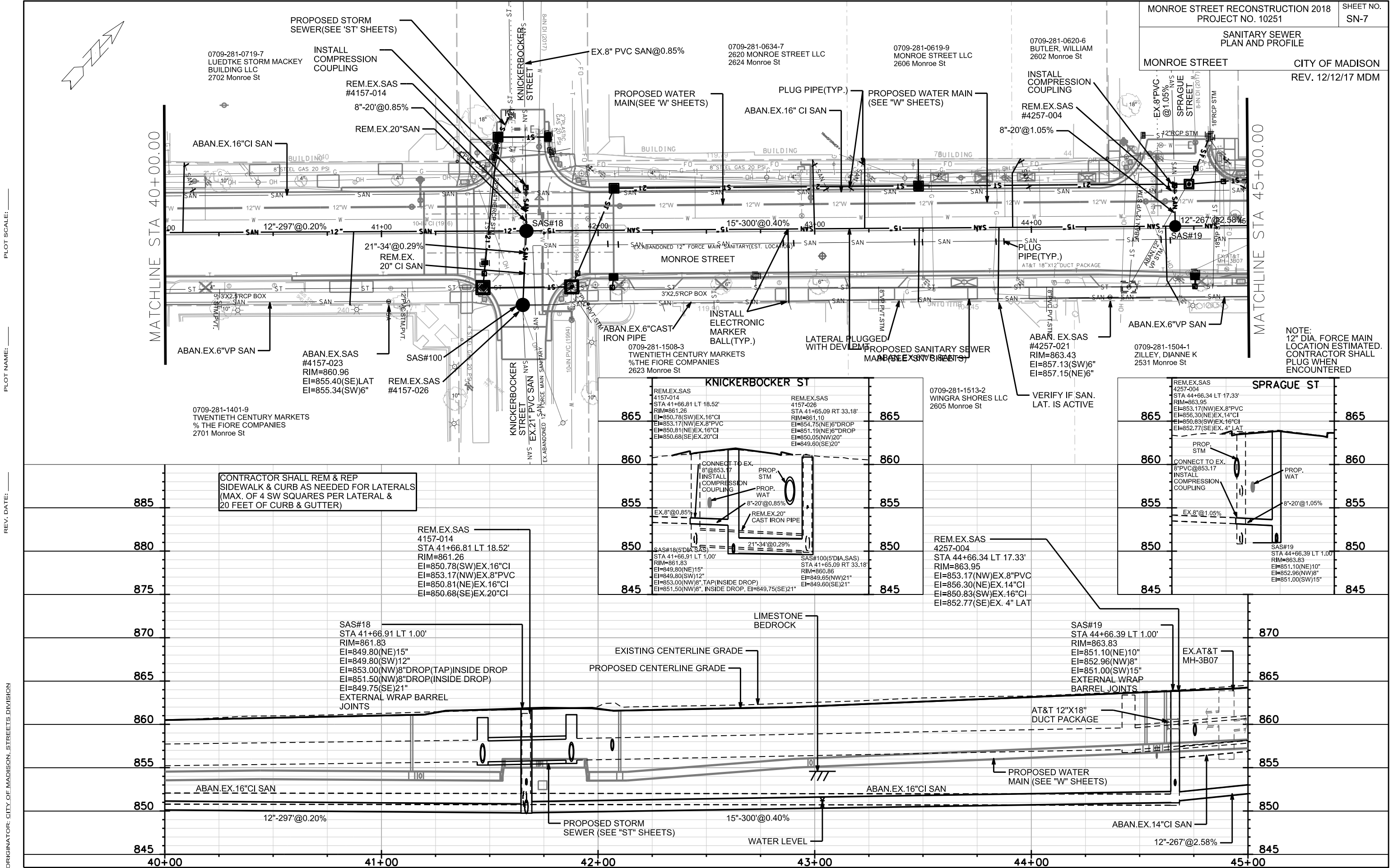


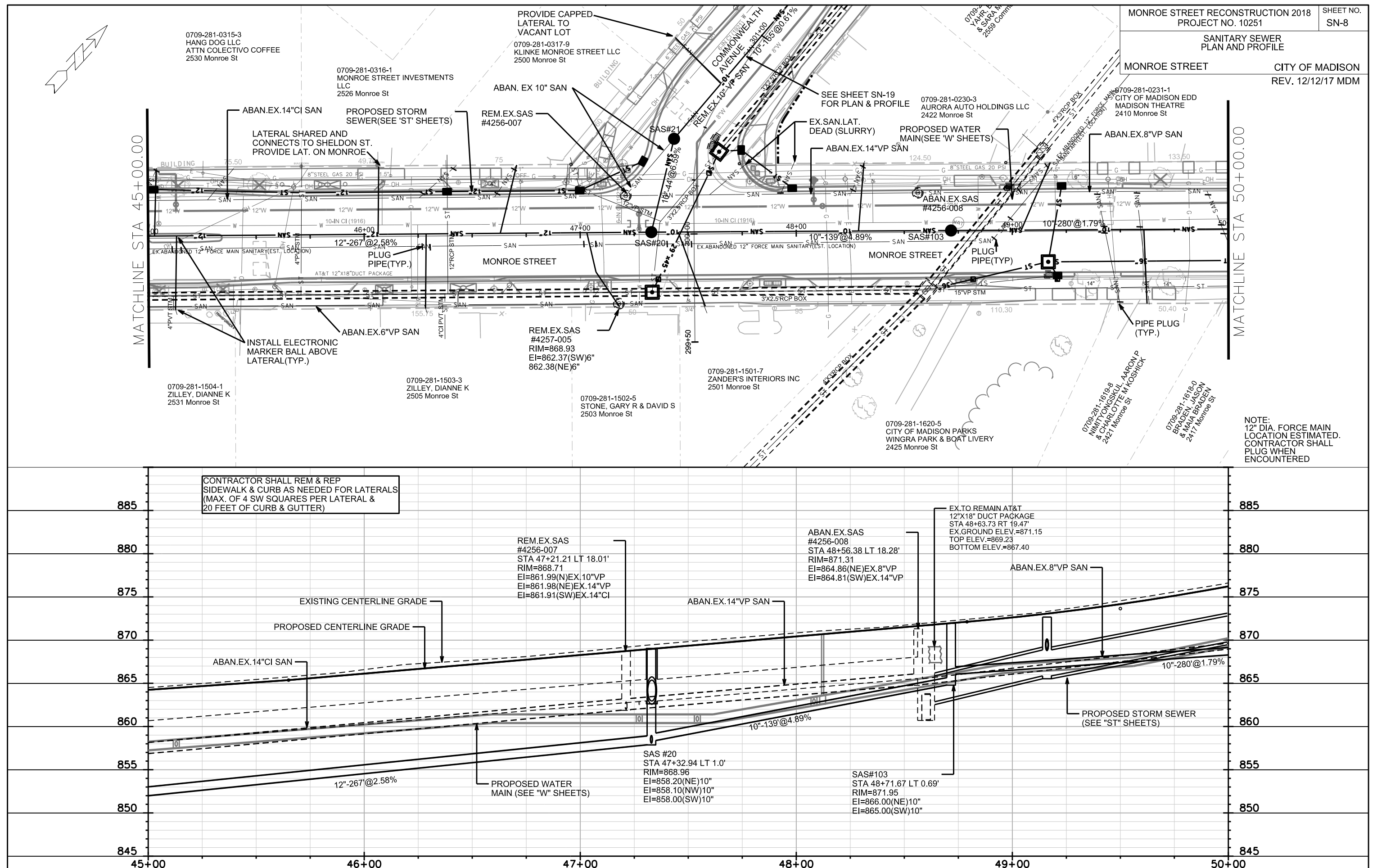


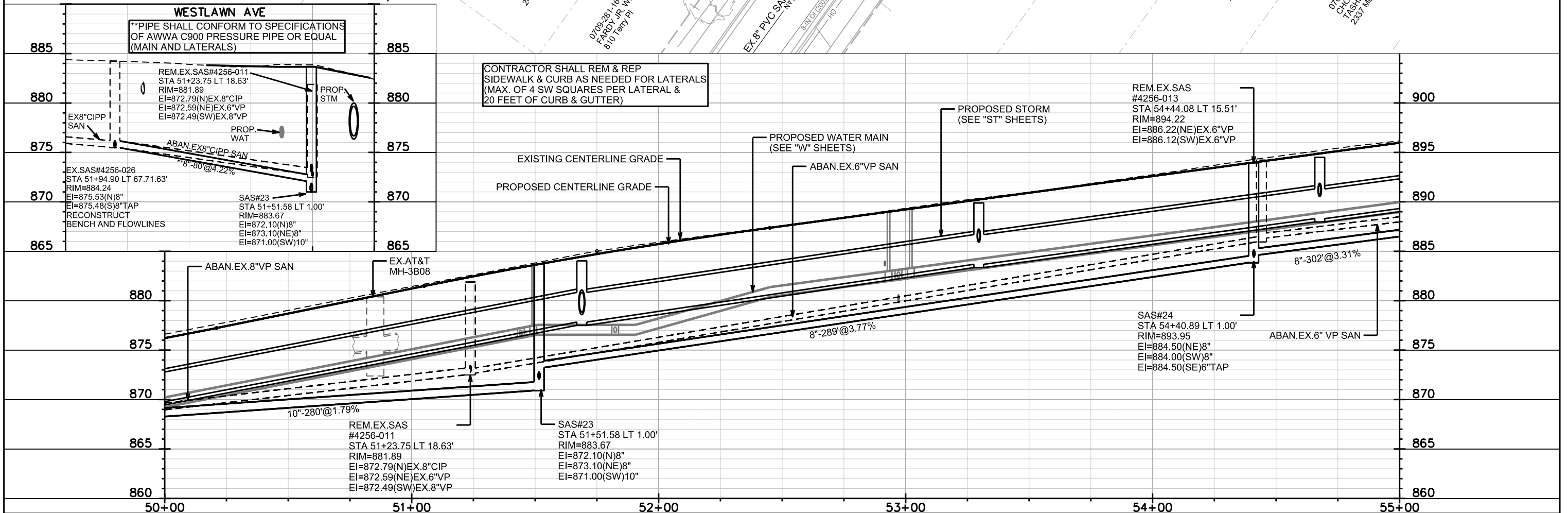
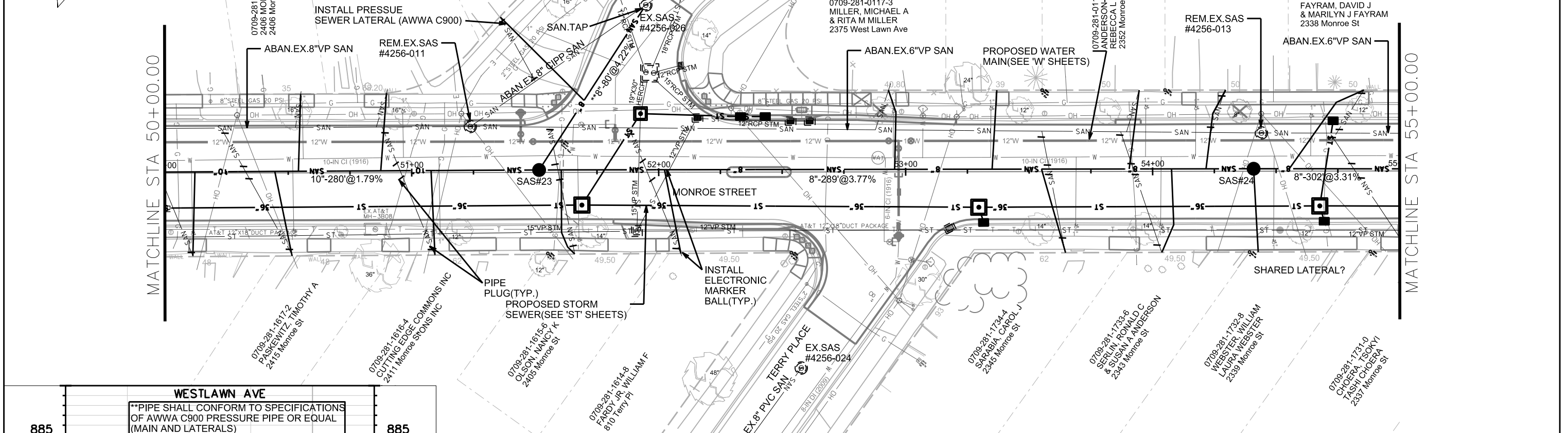


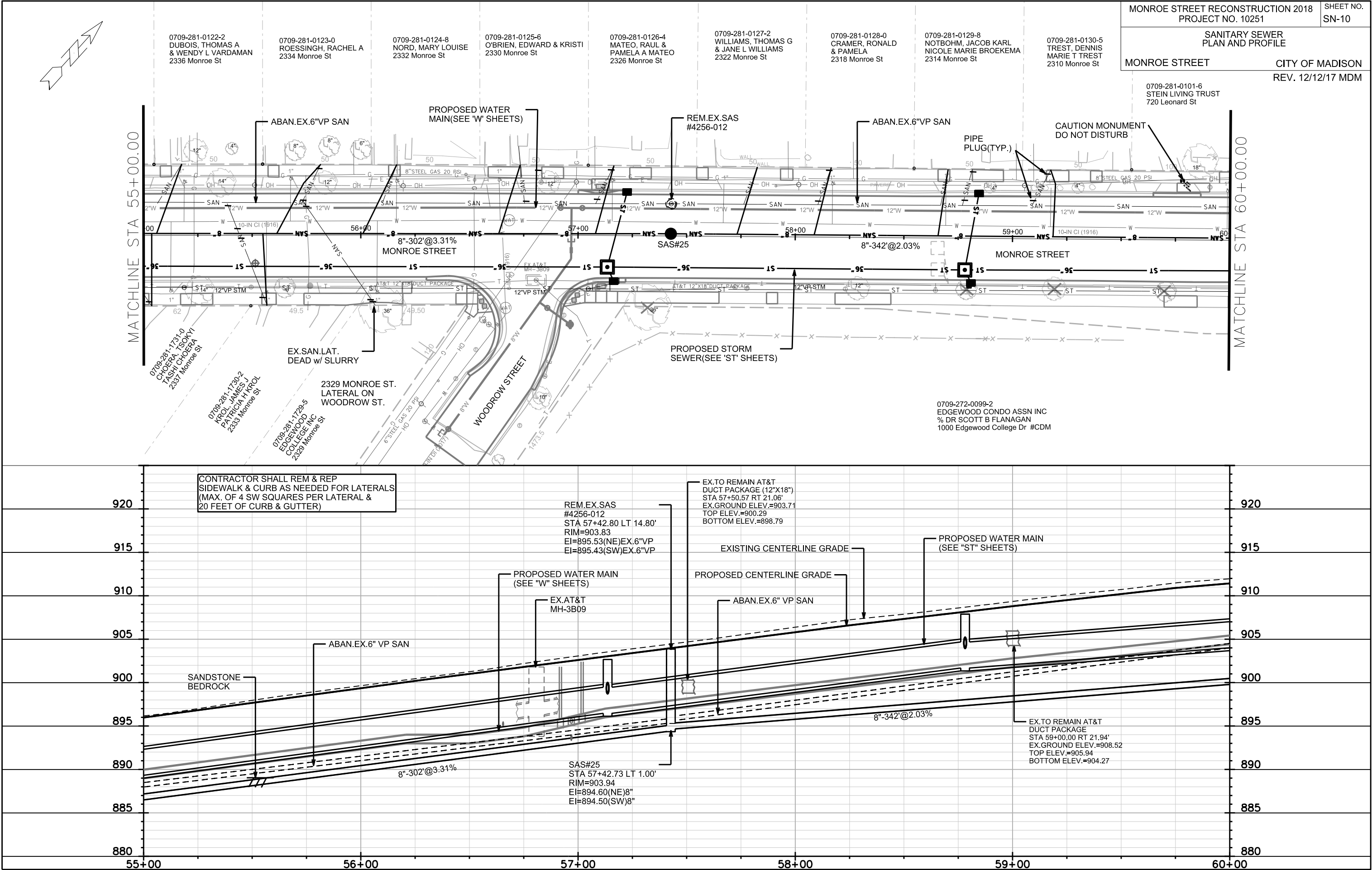


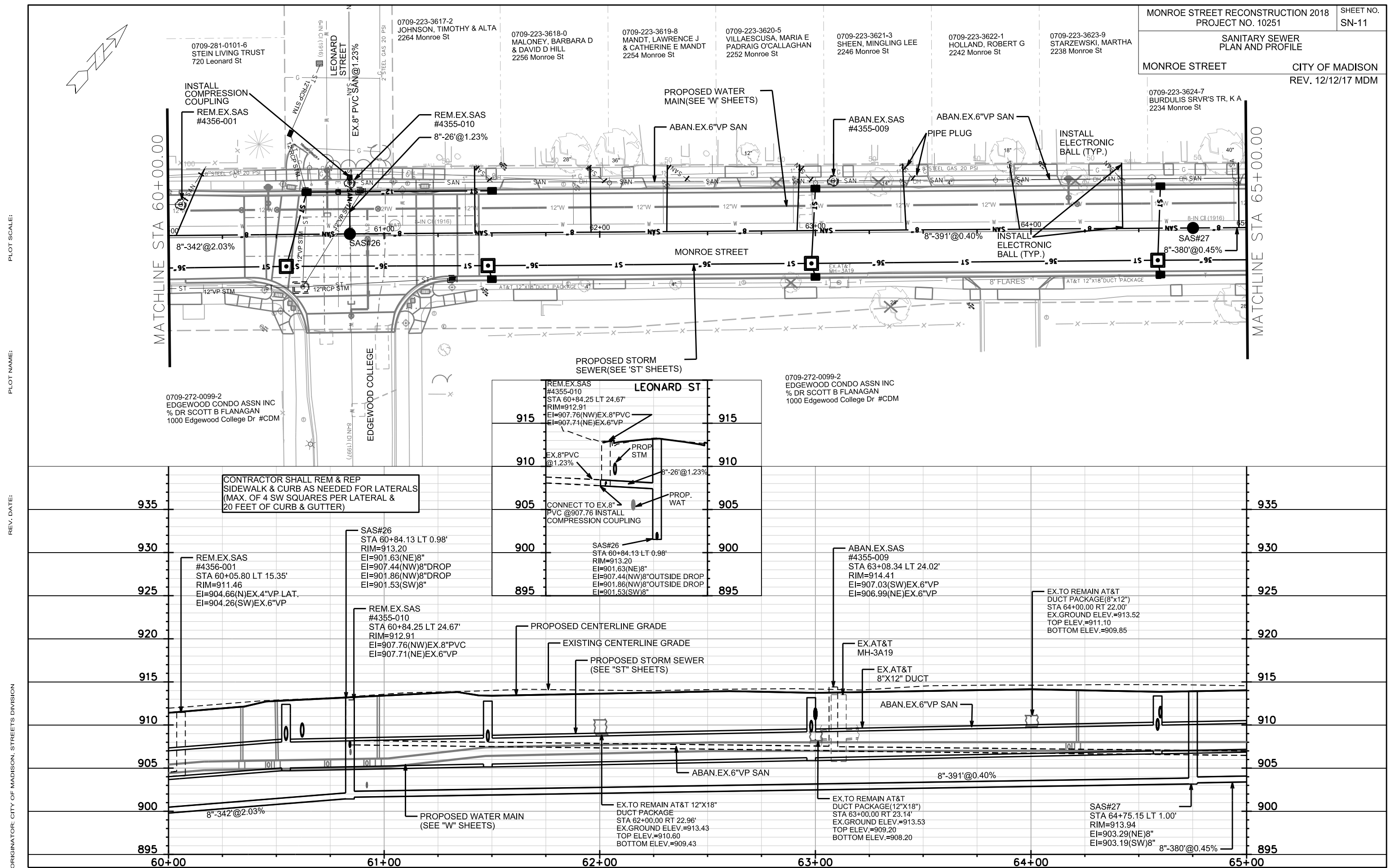


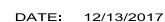












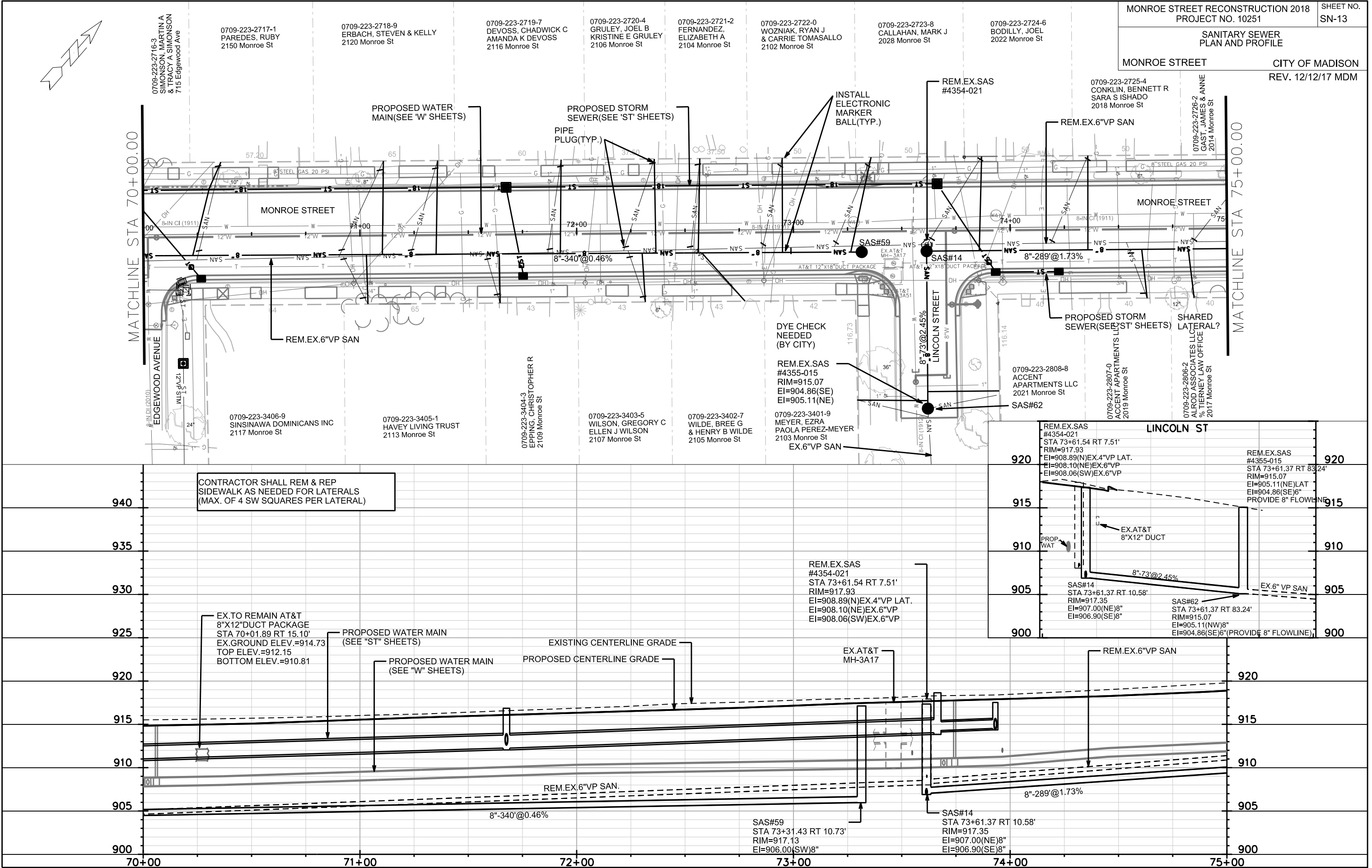


PLOT SCALE: \_\_\_\_\_

PLOT NAME: \_\_\_\_\_

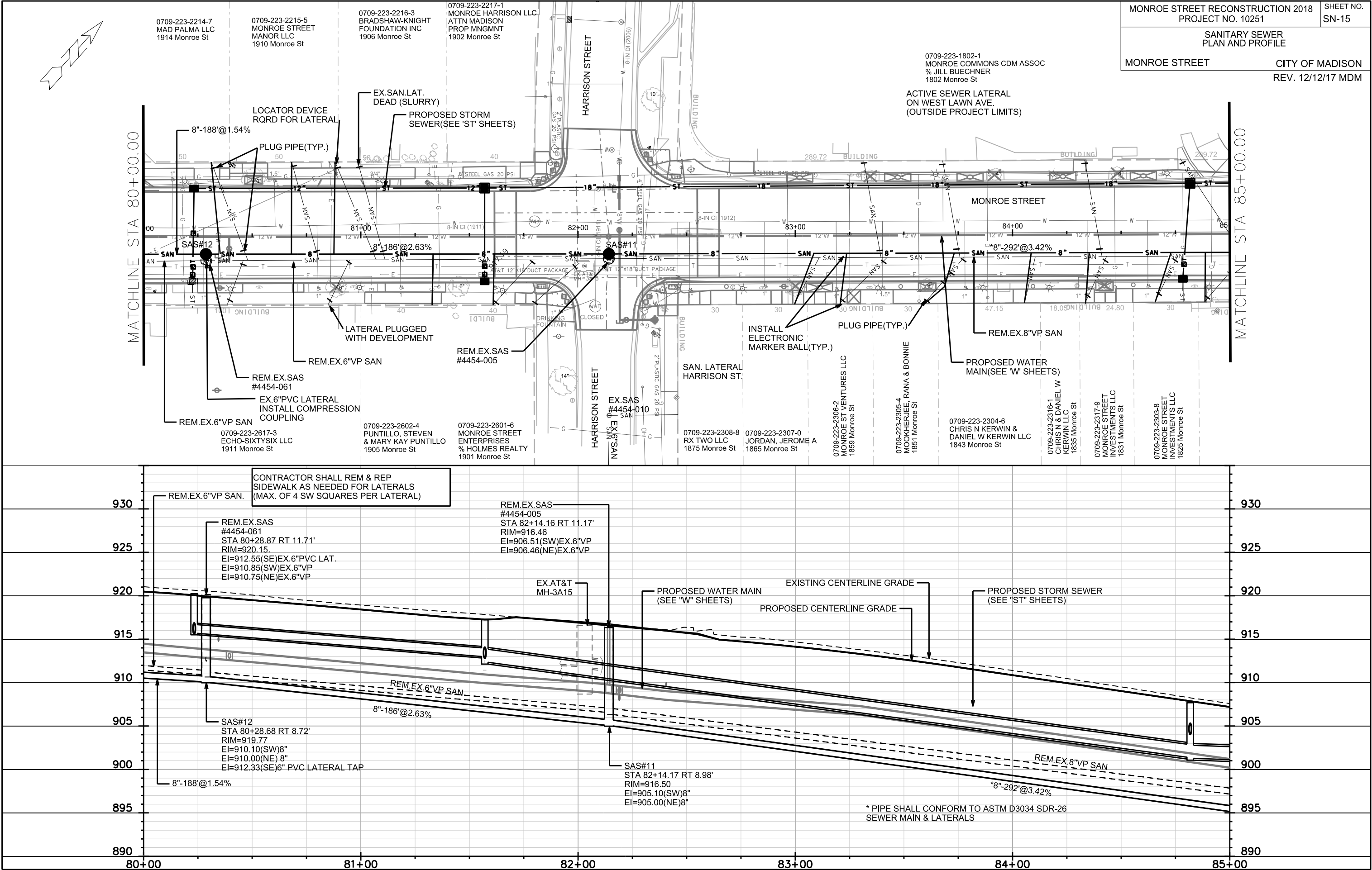
REV. DATE: \_\_\_\_\_

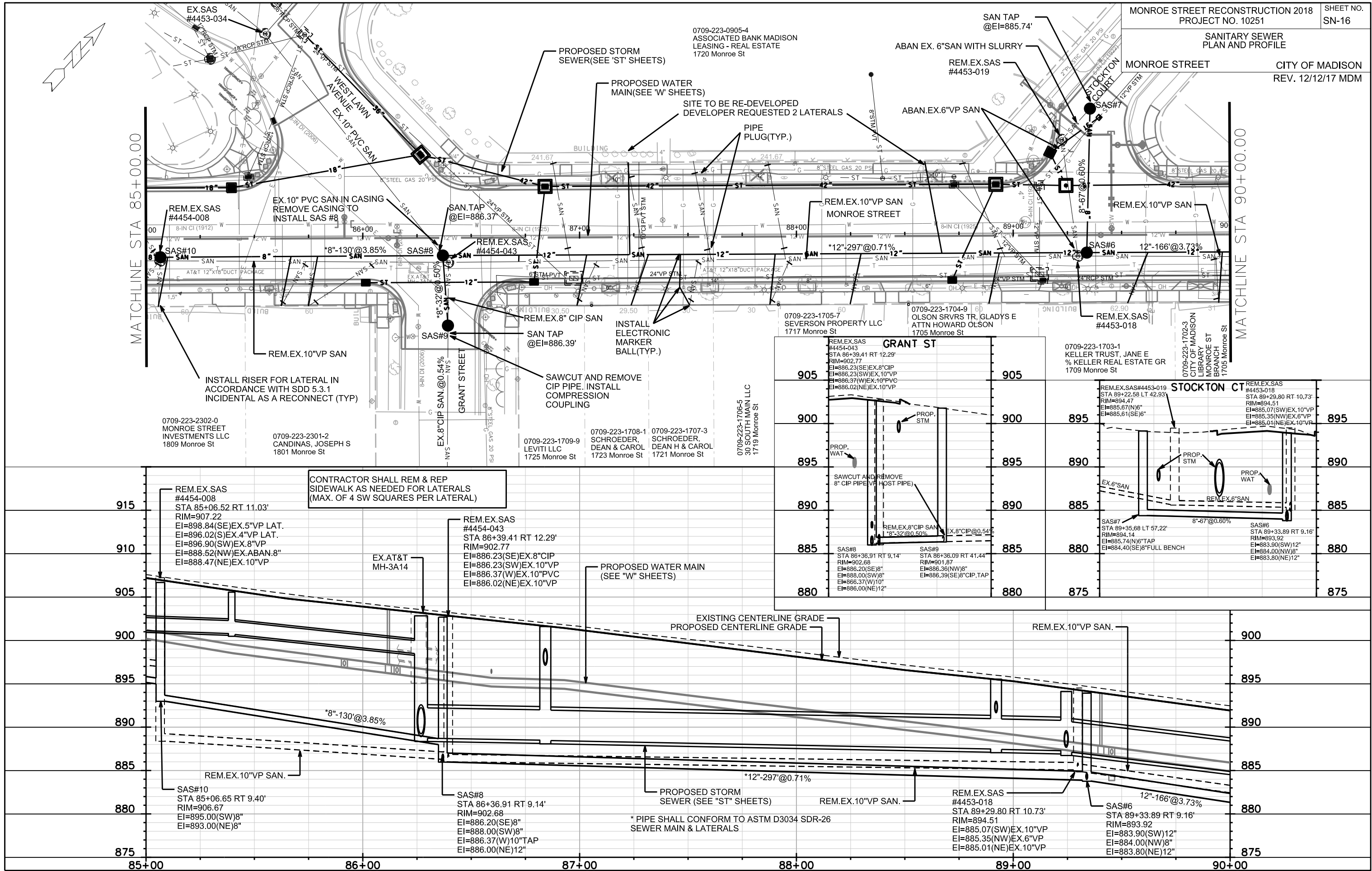
ORIGINATOR: CITY OF MADISON, STREETS DIVISION

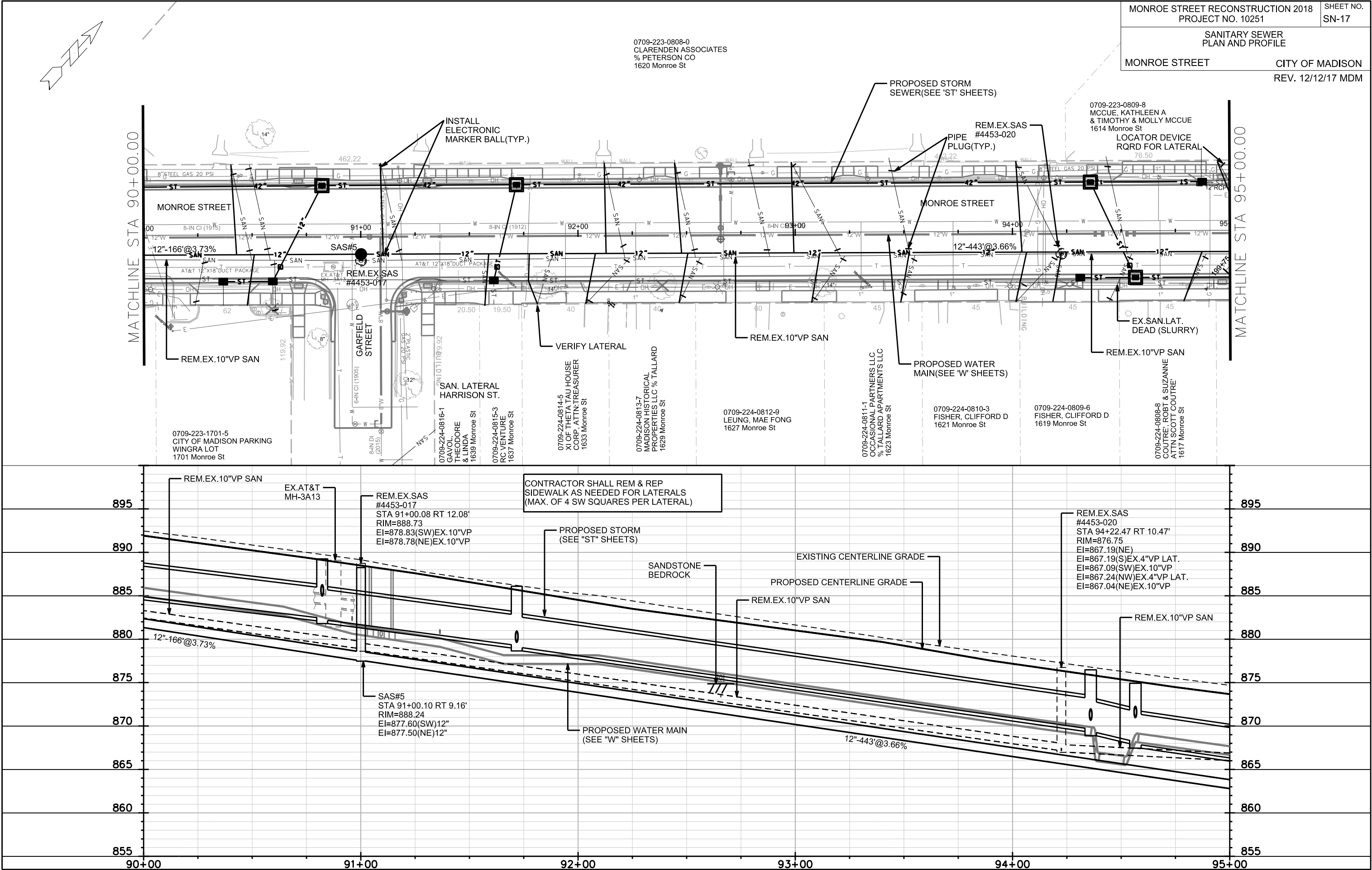




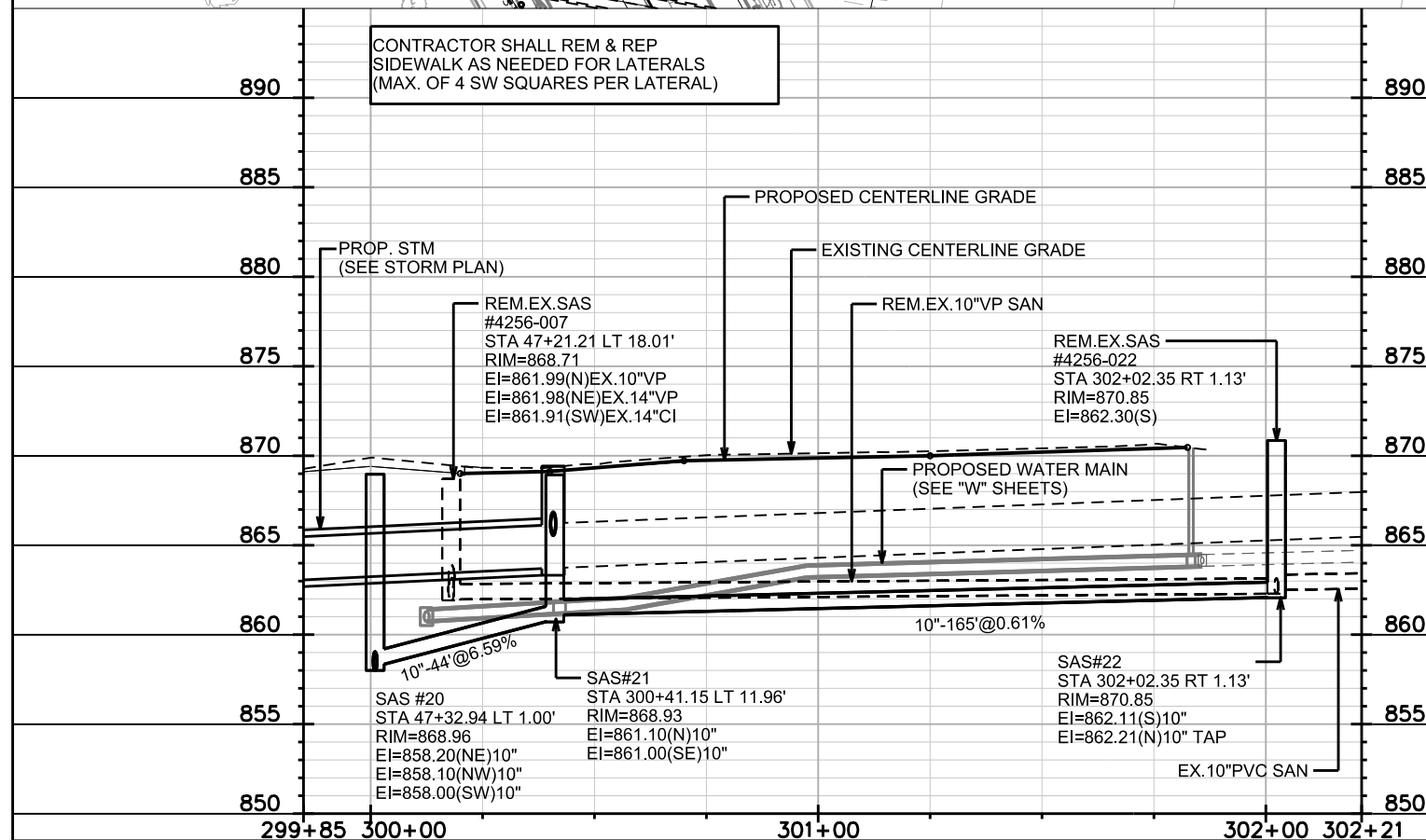
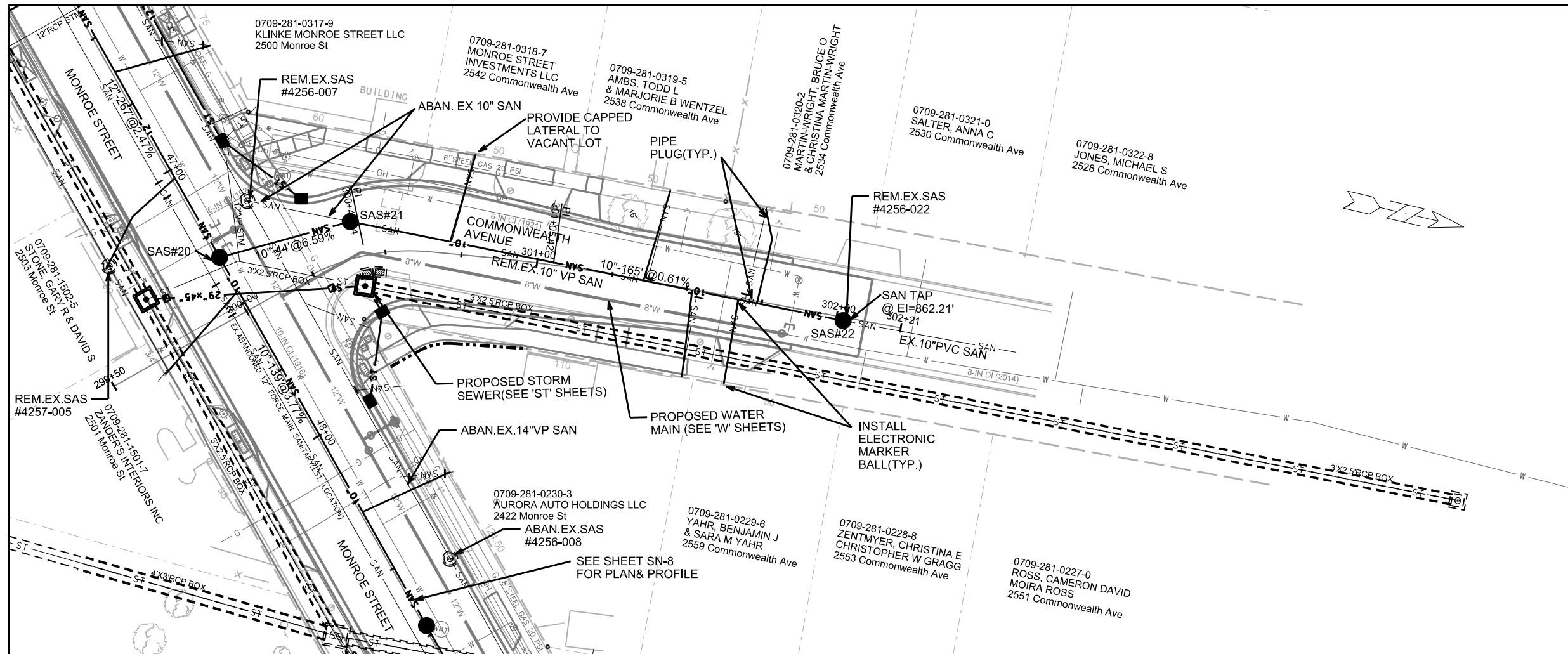


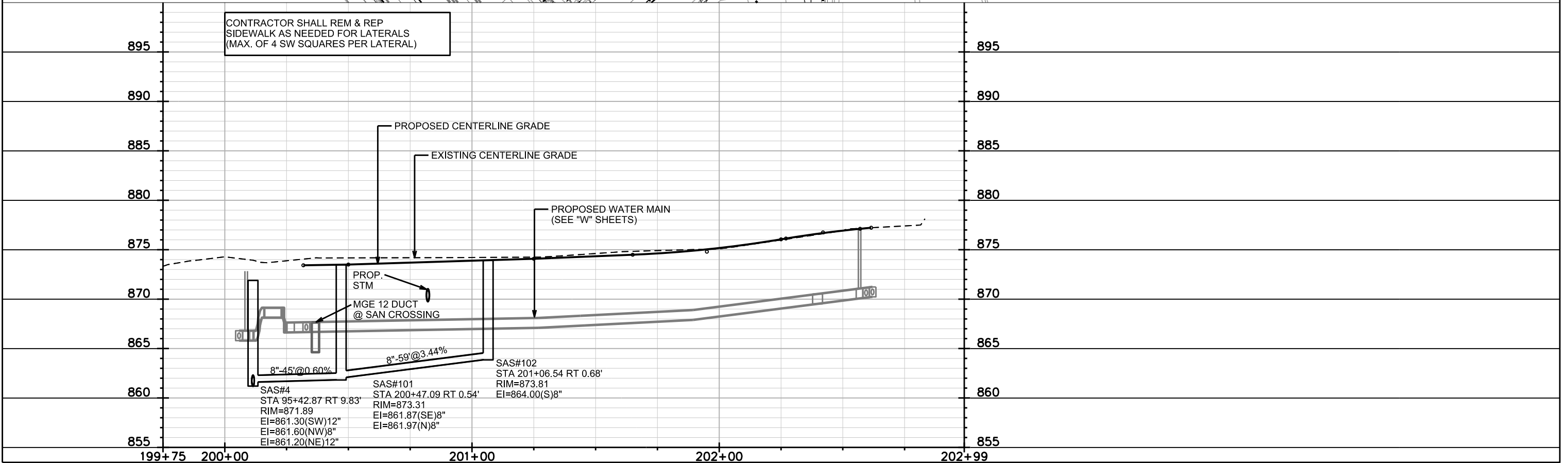
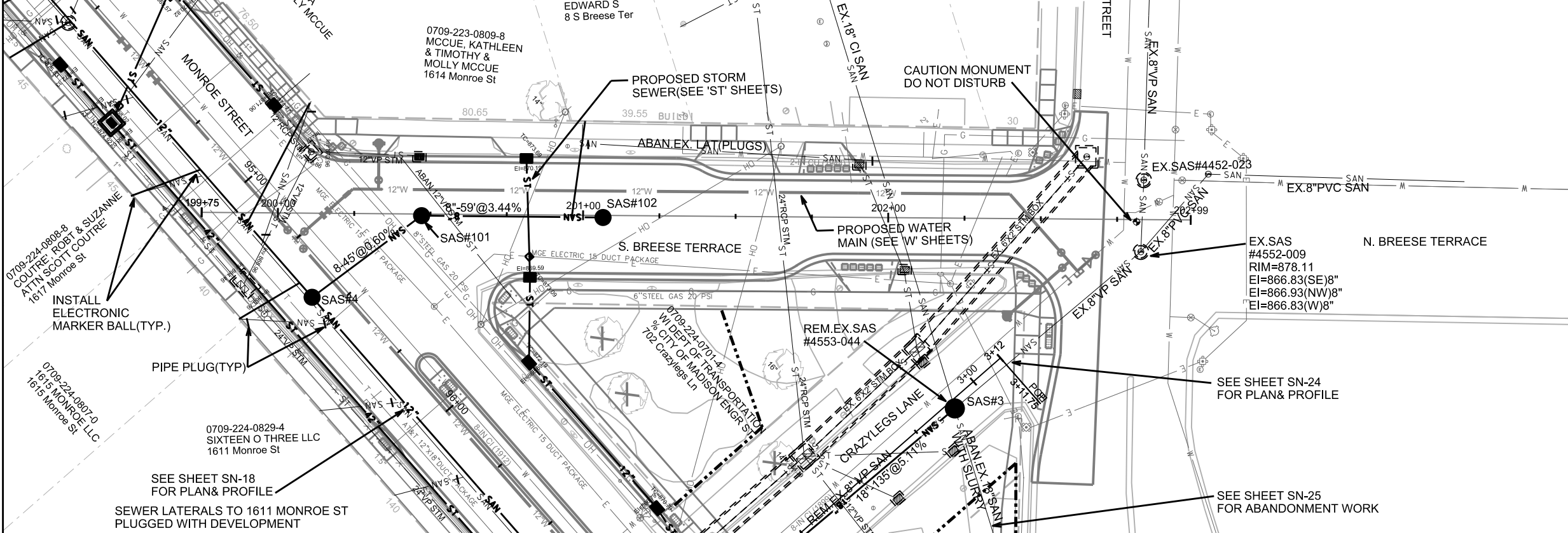




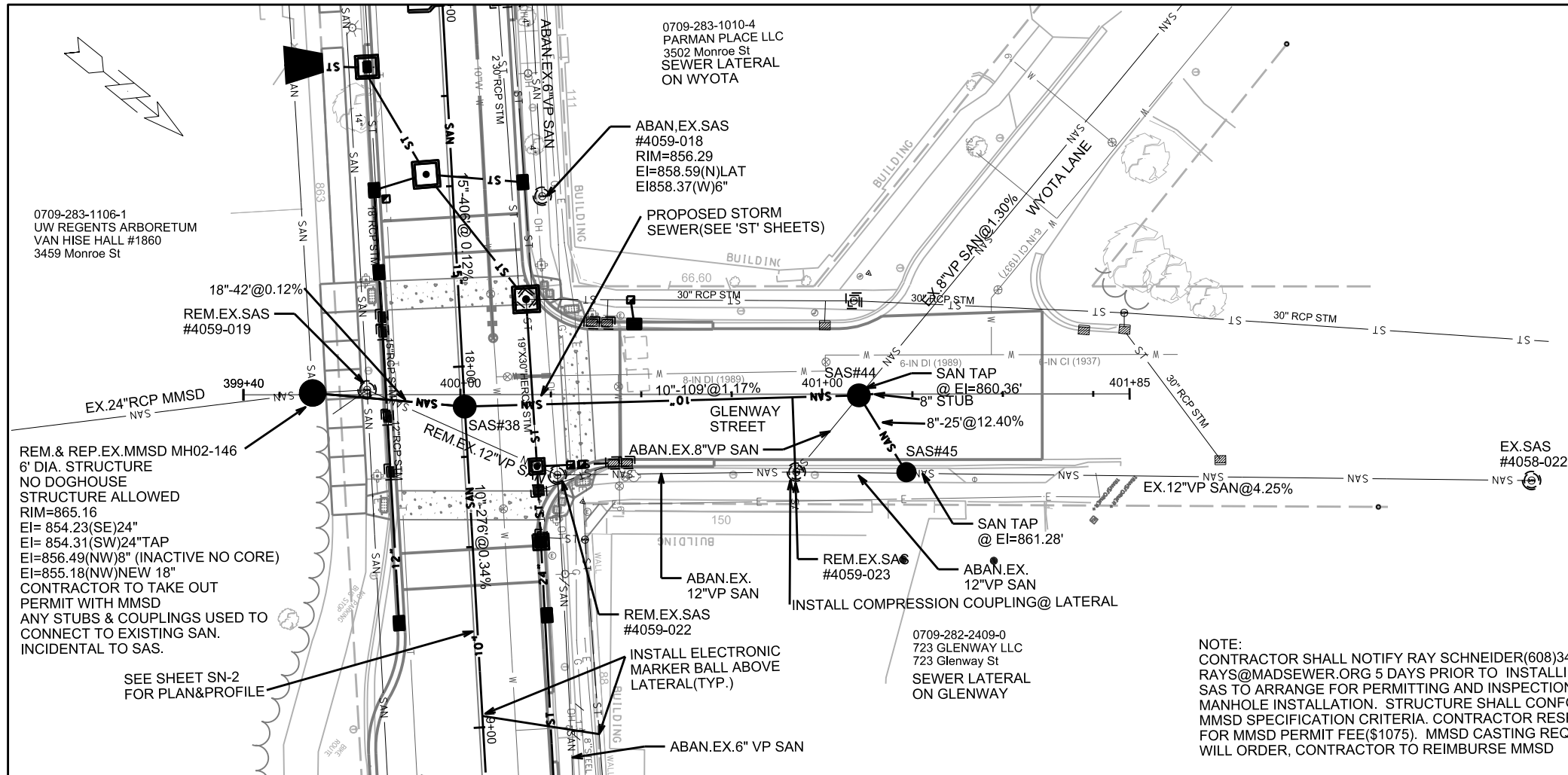






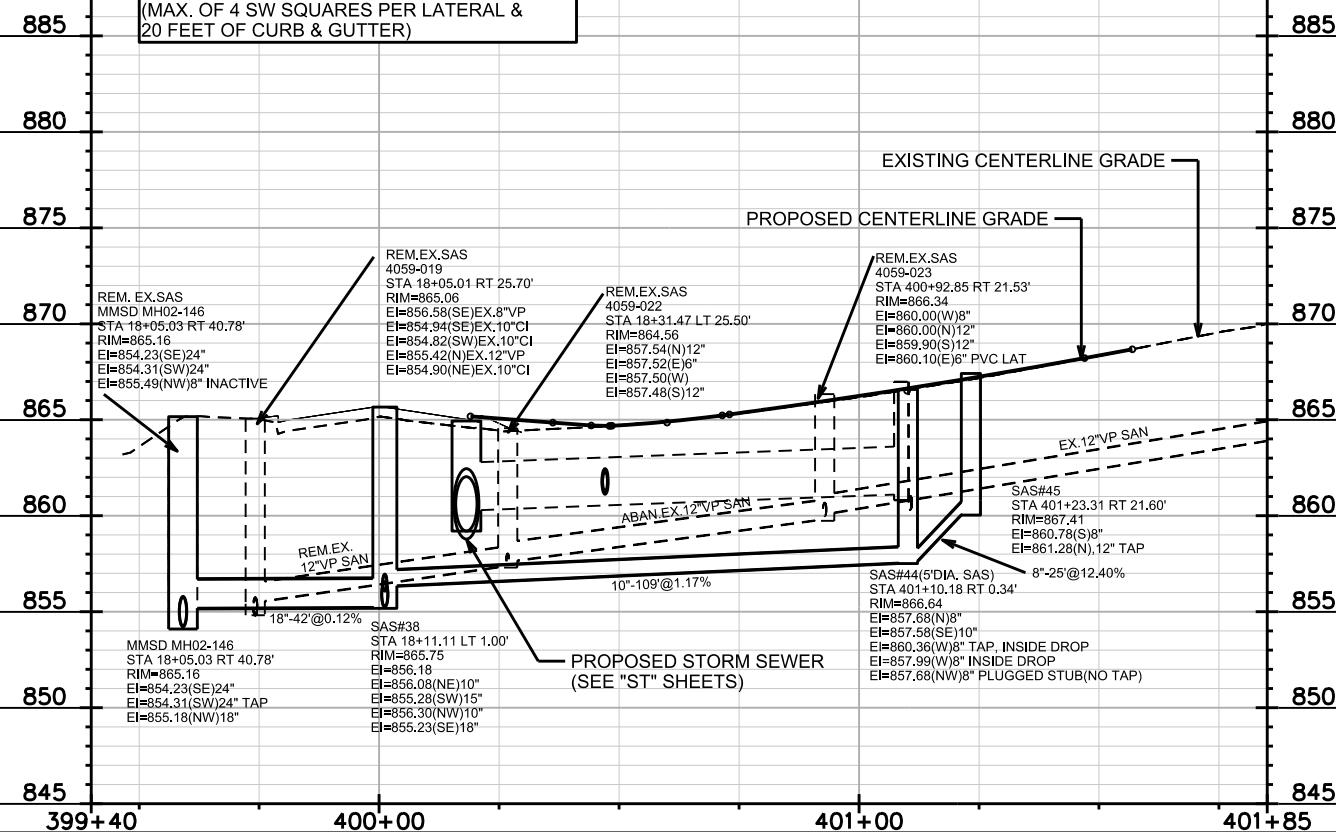






NOTE:  
CONTRACTOR SHALL NOTIFY RAY SCHNEIDER(608)347-3628,  
RAYS@MADESEWER.ORG 5 DAYS PRIOR TO INSTALLING MMSD  
SAS TO ARRANGE FOR PERMITTING AND INSPECTION OF THE  
MANHOLE INSTALLATION. STRUCTURE SHALL CONFORM TO ALL  
MMSD SPECIFICATION CRITERIA. CONTRACTOR RESPONSIBLE  
FOR MMSD PERMIT FEE(\$1075). MMSD CASTING REQUIRED. MMSD  
WILL ORDER, CONTRACTOR TO REIMBURSE MMSD

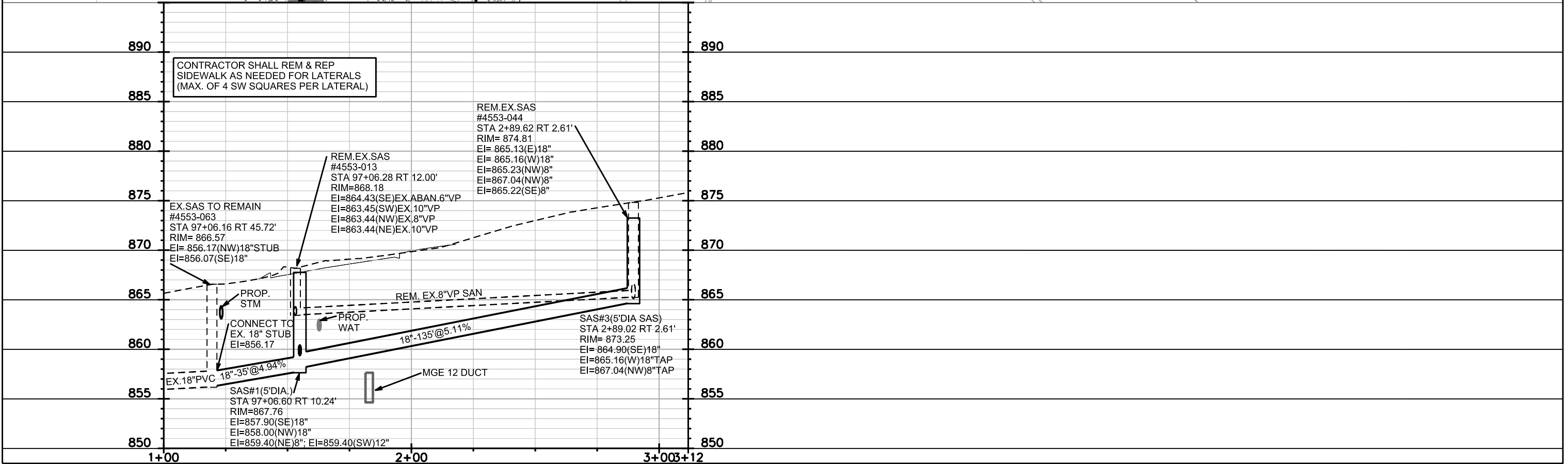
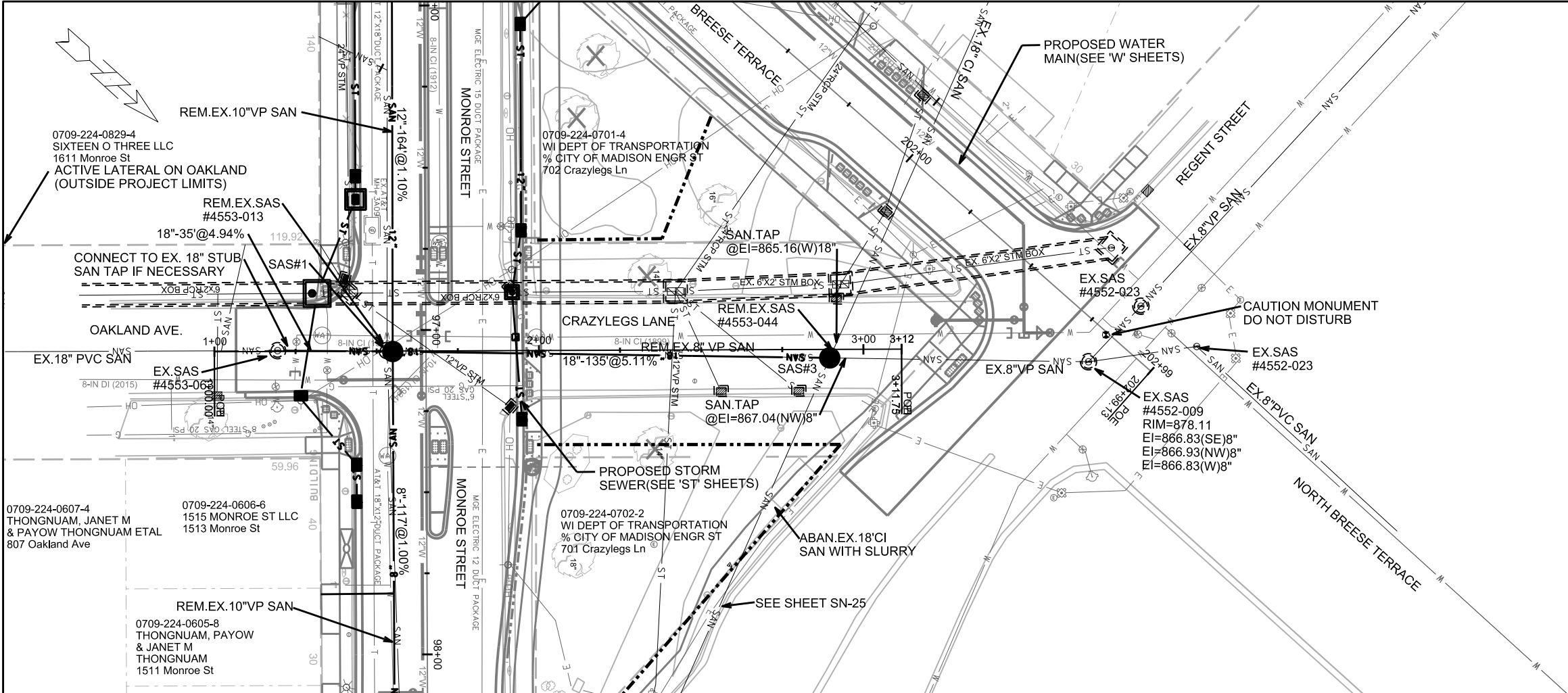
CONTRACTOR SHALL REM & REP  
SIDEWALK & CURB AS NEEDED FOR LATERALS  
(MAX. OF 4 SW SQUARES PER LATERAL &  
20 FEET OF CURB & GUTTER)

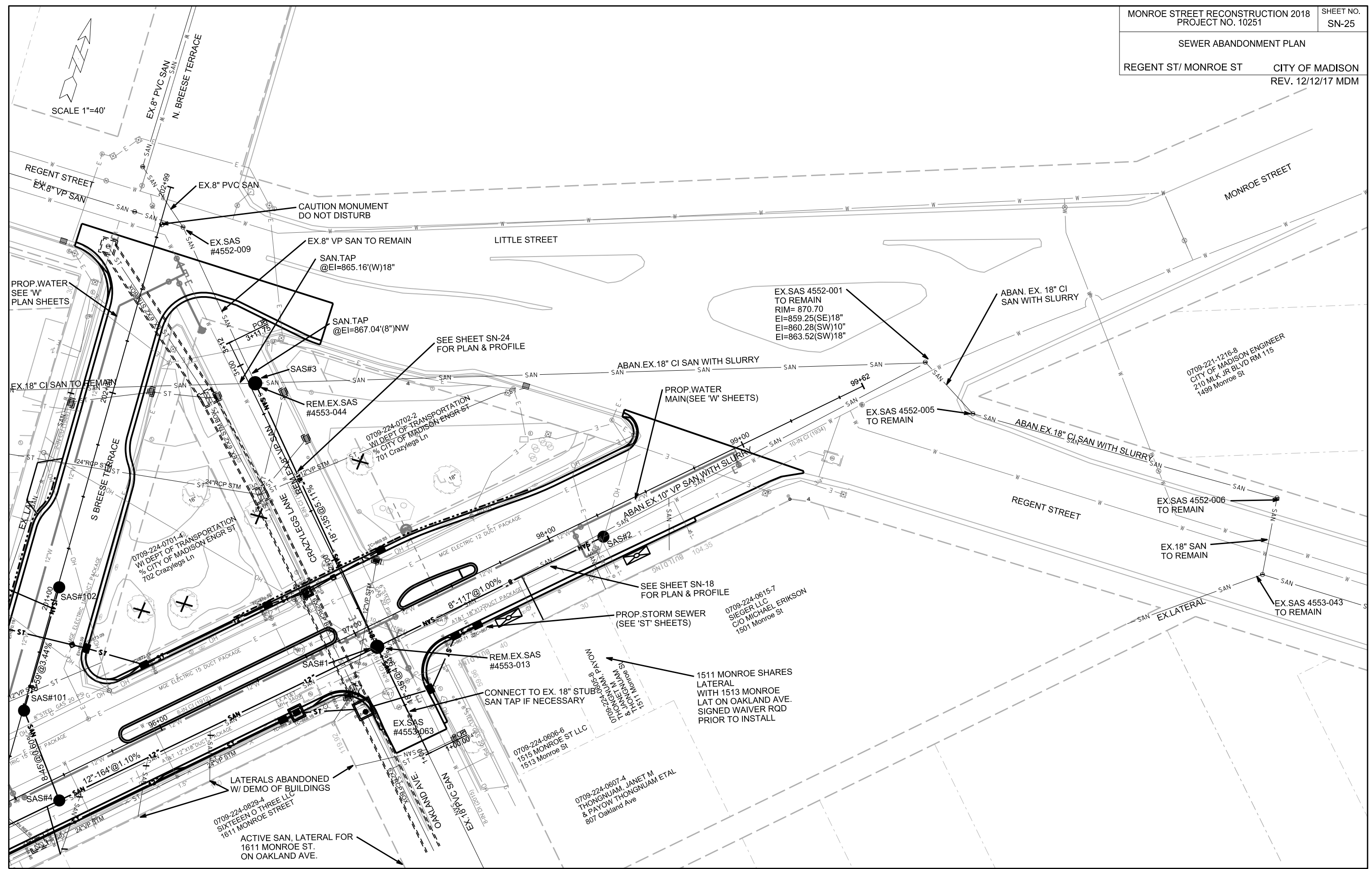












PLOT SCALE: \_\_\_\_\_

PLOT NAME: \_\_\_\_\_

REV. DATE: \_\_\_\_\_

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

SANITARY SEWER SCHEDULE

MONROE STREET STREET RECONSTRUCTION 2018	SHEET NO.
PROJECT NO. 10251	SN-26
SANITARY SEWER SCHEDULE	
CITY OF MADISON	

PROPOSED SANITARY STRUCTURES

SAS NO.	STATION	LOCATION (OFFSET)	TOP OF CASTING	E.I.	DEPTH	NOTES
MONROE STREET						
SAS#1	97+06.60	RT-10.24	867.76	857.90	9.86	5' DIA. SAS
SAS#2	98+23.25	RT-10.19	868.36	860.57	7.79	-
SAS#4	95+42.87	RT-9.83	871.89	861.20	10.69	-
SAS#5	91+00.10	RT-9.16	888.24	877.50	10.74	-
SAS#6	89+33.89	RT-9.16	893.92	883.80	10.12	-
SAS#7	89+35.68	LT-57.22	894.14	884.40	9.74	-
SAS#8	86+36.91	RT-9.14	902.68	886.00	16.68	-
SAS#9	86+39.09	RT-41.44	901.87	886.36	15.51	-
SAS#10	85+06.65	RT-9.40	906.67	893.00	13.67	-
SAS#11	82+14.17	RT-8.98	916.50	905.00	11.50	-
SAS#12	80+28.68	RT-8.72	919.77	910.00	9.77	-
SAS#13	78+41.01	RT-8.76	923.12	913.00	10.12	-
SAS#14	73+61.37	RT-10.58	917.35	906.90	10.45	-
SAS#15	76+50.07	RT-10.57	922.94	912.00	10.94	-
SAS#16	69+91.39	RT-9.66	914.56	904.35	10.21	-
SAS#17	69+34.77	RT-9.22	914.66	904.85	9.81	-
SAS#18	41+66.91	LT-1.00	861.83	849.75	12.08	5' DIA. SAS, EXTERNAL WRAP JOINTS, INSIDE DROP
SAS#19	44+66.39	LT-1.00	863.83	851.00	12.83	EXTERNAL WRAP JOINTS
SAS#20	47+32.94	LT-1.00	868.96	858.00	10.96	-
SAS#23	51+51.58	LT-1.00	883.67	871.00	12.67	-
SAS#24	54+40.89	LT-1.00	893.95	884.00	9.95	-
SAS#25	57+42.73	LT-1.00	903.94	894.50	9.44	-
SAS#26	60+84.13	LT-0.98	913.20	901.53	11.67	OUTSIDE DROP
SAS#27	64+75.15	LT-1.00	913.94	903.19	10.75	-
SAS#28	68+55.00	LT-1.00	914.64	905.00	9.64	-
SAS#29	38+70.31	LT-1.00	859.80	850.39	9.41	EXTERNAL WRAP JOINTS
SAS#33	38+65.75	LT-49.33	859.94	852.09	7.85	-
SAS#34	35+64.03	LT-1.00	858.50	851.03	7.47	CHIMNEY SEAL, EXTERNAL WRAP JOINTS
SAS#35	32+63.15	LT-1.00	859.75	851.66	8.09	EXTERNAL WRAP JOINTS
SAS#36	29+64.32	LT-1.00	862.24	852.29	9.95	-
SAS#37	26+64.63	LT-1.00	869.43	858.40	11.03	-
SAS#38	18+11.11	LT-1.00	865.75	855.23	10.52	EXTERNAL WRAP JOINTS
* SAS#40	20+86.50	LT-1.00	866.77	857.02	9.75	-
* SAS#41	20+87.46	LT-46.25	868.13	858.50	9.63	-
* SAS#42	23+56.21	LT-1.00	871.12	858.20	12.92	-
* SAS#43	23+58.58	LT-64.40	871.83	863.56	8.27	-
SAS#47	14+05.44	LT-1.00	865.81	855.77	10.04	EXTERNAL WRAP JOINTS
SAS#48	14+07.14	LT-25.23	865.19	856.90	8.29	-
SAS#49	14+21.28	LT-77.55	866.07	858.00	8.07	-
SAS#51	13+27.35	LT-1.35	865.94	855.89	10.05	CHIMNEY SEAL, EXTERNAL WRAP JOINTS
SAS#52	11+41.87	RT-50.61	866.86	856.15	10.71	EXTERNAL WRAP JOINTS
SAS#59	73+31.43	RT-10.73	917.13	906.00	11.13	-
SAS#60	29+64.58	LT-32.07	862.24	852.79	9.45	-
SAS#61	13+65.83	LT-24.19	865.67	857.81	7.86	5' DIA. SAS, OFFSET CASTING BEHIND CURB
SAS#62	73+61.36	RT-83.24	915.07	904.86	10.21	PROVIDE 8" FLOWLINE
SAS#100	41+65.09	RT-33.18	860.86	849.60	11.26	5' DIA. SAS
SAS#103	48+71.67	LT-0.69	871.95	865.00	6.95	-
MMSD MH02-146	18+05.03	RT-40.78	865.16	854.23	10.93	6'DIA SAS, EXTERNAL WRAP JOINTS
ODANA ROAD						
SAS#54	599+73.98	LT-0.54	876.33	867.41	8.92	-
NAKOMA ROAD						
SAS#53	402+64.56	RT-9.37	867.61	857.23	10.38	-
SAS#55	401+70.80	RT-11.63	867.75	857.54	10.21	-
SAS#57	399+43.05	LT-12.95	865.20	857.21	7.99	-
SAS#58	402+47.44	LT-40.03	869.14	858.87	10.27	-
GLENWAY STREET						
SAS#44	401+10.18	RT-0.34	866.64	857.58	9.06	5' DIA. SAS, INSIDE DROP
SAS#45	401+23.31	RT-21.60	867.41	860.78	6.63	-

PROPOSED SANITARY PIPES

FROM (DNSTM)	TO (UPSTM)	DWNSTRM E.I.	UPSTRM E.I.	PLAN (PAY) LGTH (FT)	SLOPE (%)	PIPE SIZE	PVC TYPE	NOTES
MONROE STREET								
SAS #1	SAS#2	859.40	860.57	117	1.00%	8"	SDR-35 PVC	
SAS #1	SAS#4	859.40	861.20	164	1.10%	12"	SDR-35 PVC	
SAS#4	SAS#5	861.30	877.50	443	3.66%	12"	SDR-35 PVC	
SAS#4	SAS#101	861.60	861.87	45	0.60%	8"	SDR-35 PVC	
SAS#5	SAS#6	877.60	883.80	166	3.73%	12"	SDR-35 PVC	
SAS#6	SAS#7	884.00	884.40	67	0.60%	8"	SDR-35 PVC	
SAS#6	SAS#8	883.90	886.00	297	0.71%	12"	SDR-26 PVC	
SAS#8	SAS#9	886.20	886.36	32	0.50%	8"	SDR-26 PVC	
SAS#8	SAS#10	888.00	893.00	130	3.85%	8"	SDR-26 PVC	
SAS#10	SAS#11	895.00	905.00	292	3.42%	8"	SDR-26 PVC	
SAS#11	SAS#12	905.10	910.00	186	2.63%	8"	SDR-35 PVC	
SAS#12	SAS#13	910.10	913.00	188	1.54%	8"	SDR-35 PVC	
SAS#14	SAS#15	907.00	912.00	289	1.73%	8"	SDR-35 PVC	
SAS#62	SAS#14	905.11	906.90	73	2.45%	8"	SDR-35 PVC	
SAS#16	SAS#17	904.45	904.85	57	0.70%	8"	SDR-35 PVC	
SAS#16	SAS#59	904.45	906.00	340	0.46%	8"	SDR-35 PVC	
EX. SAS 4355-022	SAS#16	904.16	904.35	27	0.70%	8"	SDR-35 PVC	
SAS#17	EX. SAS 4355-018	905.09	905.26	37	0.46%	8"	SDR-35 PVC	
SAS#100	SAS#18	849.65	849.75	34	0.29%	21"	PS46,ASTM F679 PVC	
SAS#18	EX. SAS #4157-014	853.00	853.17	20	0.85%	8"	SDR-35 PVC	
SAS#18	SAS#19	849.80	851.00	300	0.40%	15"	SDR-35 PVC	
SAS#18	SAS#29	849.80	850.39	297	0.20%	12":	SDR-35 PVC	
SAS#19	SAS#20	851.10	858.00	267	2.58%	12"	SDR-35 PVC	
SAS#19	EX. SAS #4257-004	852.96	853.17	20	1.05%	8"	SDR-35 PVC	
SAS#20	SAS#103	858.20	865.00	139	4.89%	10"	SDR-35 PVC	
SAS#20	SAS#21	858.10	861.00	44	6.59%	10"	SDR-35 PVC	
SAS#103	SAS#23	866.00	871.00	280	1.79%	10"	SDR-35 PVC	
SAS#23	SAS#24	873.10	884.00	289	3.77%	8"	SDR-35 PVC	
SAS#23	EX. SAS #4256-026	872.10	875.48	80	4.22%	8"	AWWA C900 DR18 PVC	
SAS#24	SAS#25	884.50	894.50	302	3.31%	8"	SDR-35 PVC	
SAS#25	SAS#26	894.60	901.53	342	2.03%	8"	SDR-35 PVC	
SAS#26	SAS#27	901.63	903.19	391	0.40%	8"	SDR-35 PVC	
SAS#26	EX. SAS #4355-010	907.44	907.76	26	1.23%	8"	SDR-35 PVC	
SAS#27	SAS#28	903.29	905.00	380	0.45%	8"	SDR-35 PVC	
SAS#29	SAS#33	851.22	852.09	48	1.81%	8"	SDR-35 PVC	
SAS#29	SAS#34	850.42	851.03	306	0.20%	12"	SDR-35 PVC	
SAS#34	SAS#35	851.06	851.66	301	0.20%	12"	SDR-35 PVC	
SAS#34	EX. SAS #4157-008	851.17	851.61	22	2.00%	8"	SDR-35 PVC	
SAS#35	SAS#36	851.68	852.29	299	0.20%	12"	SDR-35 PVC	
SAS#35	EX. SAS #4158-010	851.68	852.25	20	2.85%	8"	SDR-35 PVC	
SAS#36	SAS#60	852.39	852.79	31	1.29%	8"	SDR-35 PVC	
SAS#36	SAS#37	852.32	858.40	300	2.03%	8"	SDR-35 PVC	
SAS#37	EX. SAS #4158-005	858.80	860.79	21	9.48%	8"	SDR-35 PVC	
* SAS#38	SAS#40	856.08	857.02	276	0.34%	10"	SDR-35 PVC	
SAS#38	SAS#47	855.28	855.77	406	0.12%	15"	SDR-35 PVC	
MMSD MH-146	SAS#38	855.18	855.23	42	0.12%	18"	PS46,ASTM F679 PVC	
* SAS#40	SAS#41	857.12	858.50	45	3.07%	8"	SDR-35 PVC	
* SAS#40	SAS#42	857.12	858.20	269	0.40%	8"	SDR-26 PVC	
* SAS#42	SAS#43	858.30	863.56	63	8.35%	8"	SDR-35 PVC	
SAS#47	SAS#48	856.72	856.90	24	0.75%	12"	SDR-35 PVC	
SAS#47	SAS#51	855.80	855.89	78	0.12%	15"	SDR-35 PVC	
SAS#48	SAS#61	857.00	857.81	41	1.98%	12"	SDR-35 PVC	
SAS#51	SAS#52	855.92	856.15	193	0.12%	15"	SDR-35 PVC	
STA 11+94.62 LT 26.32	EX. SAS #4059-004	860.52	861.41	60	1.48%	12"	SDR-35 PVC	
ODANA ROAD								
SAS#52	SAS#54	856.19	867.41	308	3.64%	15"	SDR-35 PVC	
NAKOMA ROAD								
SAS#52	SAS#53	856.88	857.23	118	0.30%	10"	SDR-35 PVC	
SAS#53	SAS#55	857.26	857.54	93	0.30%	10"	SDR-35 PVC	
MH 02-150	SAS#57	857.00	857.21	41	0.51%	8"	SDR-35 PVC	
SAS#57	SAS#58	857.31	858.87	311	0.50%	8"	SDR-35 PVC	

\* REV. 12/12/17 MDM

SANITARY SEWER SCHEDULE

MONROE STREET RECONSTRCTION 2018 PROJECT NO. 10251	SHEET NO. SN-27
SANITARY SEWER SCHEDULE CITY OF MADISON	

PROPOSED SANITARY STRUCTURES

SAS NO.	STATION	LOCATION (OFFSET)	TOP OF CASTING	E.I.	DEPTH	NOTES
COMMONWEALTH AVE.						
SAS#21	300+41.15	LT-11.96	868.93	861.00	7.93	-
SAS#22	302+02.35	RT-1.13	870.85	862.11	8.74	-
SOUTH BREESE TERRRACE						
SAS#101	200+47.09	RT-0.54	873.31	861.87	11.44	-
SAS#102	201+06.54	RT-0.68	873.81	864.00	9.81	-
CRAZYLEGS LANE						
SAS#3	2+89.62	RT-2.61	873.25	864.90	8.35	5' DIA. SAS, NO DOGHOUSE MANHOLE

PROPOSED SANITARY PIPES

FROM (DNSTM)	TO (UPSTM)	DWNSTRM E.I.	UPSTRM E.I.	PLAN (PAY) LGTH (FT)	SLOPE (%)	PIPE SIZE	PVC TYPE	NOTES
* REV. 12/12/17 MDM								
LEWIS STREET								
SAS#48	SAS#49	857.60	858.00	54	0.74%	8"	SDR-35 PVC	
GLENWAY STREET								
SAS#38	SAS#44	856.30	857.58	109	1.17%	10"	SDR-35 PVC	
SAS#44	SAS#45	857.68	860.78	25	12.40%	8"	SDR-35 PVC	
COMMONWEALTH AVE.								
SAS#21	SAS#22	861.10	862.11	165	0.61%	10"	SDR-35 PVC	
SOUTH BREESE TERRRACE								
SAS#101	SAS#102	861.97	864.00	59	3.44%	8"	SDR-35 PVC	
OAKLAND AVE.								
EX. SAS 4553-063	SAS#1	856.17	857.90	35	4.94%	18"	SDR-35 PVC	
CRAZYLEGS LANE								
SAS#1	SAS#3	858.00	864.90	135	5.11%	18"	PS46,ASTM F679 PVC	

INSIDE/ OUTSIDE DROPS

STRUCTURE NO.	LOCATION	OFFSET	TYPE OF DROP	PIPE SIZE	EI	EI	DROP V.F.
SAS#18	41+66.91	LT-1.00	INSIDE DROP	8"	853.00	851.50	1.50
SAS#26	60+84.13	LT-0.98	OUTSIDE DROP	8"	907.44	901.86	5.58
SAS#44	401+10.18	RT-0.34	INSIDE DROP	8"	860.36	857.99	2.37

UTILITY LINE OPENINGS

ULO NO.	LOCATION	OFFSET	TYPE
* ULOSAN1	19+52.84	LT-26.91	SANITARY LATERAL
* ULOSAN2	20+52.89	LT-44.62	SANITARY LATERAL
* ULOSAN3	21+99.19	LT-26.52	SANITARY LATERAL
* ULOSAN4	22+97.89	LT-25.64	SANITARY LATERAL
* ULOSAN5	27+42.81	LT-33.39	SANITARY LATERAL
* ULOSAN6	28+09.96	LT-26.13	SANITARY LATERAL
* ULOSAN7	28+90.92	LT-25.71	SANITARY LATERAL

SANITARY SEWER REMOVAL AND ABANDONMENT SCHEDULE

MONROE STREET RECONSTRUCTION 2018	SHEET NO.
PROJECT NO. 10251	SN-28
SANITARY SEWER REMOVAL AND ABANDONMENT SCHEDULE	
CITY OF MADISON	

\* REV. 12/12/17 MDM

STRUCTURE REMOVAL AND ABANDONMENTS

SAS NO.	STATION	LOCATION (OFFSET)	TOP OF CASTING	E.I.	DEPTH	REM./ABAN.	NOTES
SAS 4059-002	599+73.98	LT-0.54	876.33	868.41	7.92	REMOVE	7x7 SAS
SAS 4060-001	401+49.04	LT-17.94	868.54	860.75	7.79	REMOVE	4X4 SAS
SAS 4060-002	401+23.41	RT-25.89	867.72	856.58	11.14	ABANDON	4X4 SAS
SAS 4060-003	399+50.15	RT-30.46	865.31	856.81	8.50	REMOVE	4X4 SAS
SAS 4060-004	399+43.19	LT-13.05	865.10	857.06	8.04	REMOVE	4.5X6 SAS
SAS 4059-006	402+32.58	RT-16.66	868.20	856.26	11.94	ABANDON	4X4 SAS
SAS 4059-005	10+48.41	RT-19.27	870.78	864.30	6.48	REMOVE	6X6 SAS
SAS 4059-012	403+51.01	RT-16.18	867.47	855.53	11.94	REMOVE	4X4 SAS
SAS 4059-013	11+90.37	RT-40.85	866.80	855.84	10.96	REMOVE	4X4 SAS
SAS 4059-014	12+59.39	RT-27.13	865.93	856.03	9.90	REMOVE	4X4 SAS
SAS 4059-015	13+44.74	RT-28.01	866.17	855.63	10.54	ABANDON	4X4 SAS
SAS 4059-027	13+73.26	LT-24.10	865.47	857.71	7.76	REMOVE	4X4 SAS
SAS 4059-026	14+98.29	LT-26.51	865.79	857.26	8.53	REMOVE	CLEANOUT
SAS 4059-017	15+56.46	LT-26.15	866.12	857.00	9.12	ABANDON	4X4 SAS
SAS 4059-016	15+73.94	RT-26.06	866.11	855.13	10.98	ABANDON	4X4 SAS
SAS 4059-018	17+54.16	LT-25.60	865.29	858.37	6.92	ABANDON	4X4 SAS
SAS 4059-019	18+05.01	RT-25.70	865.06	854.90	10.16	REMOVE	4X4 SAS
MMSD MH02-146	18+05.03	RT-40.78	865.16	854.23	10.93	REMOVE	5X5 SAS WITH PIN CASTING
SAS 4059-022	18+31.47	LT-25.50	864.56	857.48	7.08	REMOVE	4X4 SAS
SAS 4059-023	400+92.85	RT-21.53	866.34	859.90	6.44	REMOVE	GLENWAY
SAS 4059-021	19+59.76	LT-24.06	865.92	858.18	7.74	REMOVE	4' PRECAST ROUND
SAS 4059-020	20+84.61	RT-26.99	866.83	854.43	12.40	ABANDON	4X4 SAS
SAS 4059-001	20+87.49	LT-16.19	866.44	854.34	12.10	REMOVE	4X4 SAS
SAS 4058-027	23+64.55	LT-20.14	871.07	853.71	17.36	REMOVE	6X6 SAS
SAS 4158-005	26+64.68	LT-20.00	869.38	853.00	16.38	REMOVE	5X5 SAS
SAS 4158-008	29+64.57	LT-19.67	862.10	852.25	9.85	REMOVE	6X6 SAS
SAS 4158-003	30+34.95	RT-28.00	862.12	853.33	8.79	REMOVE	CLEANOUT
SAS 4158-010	32+63.28	LT-18.16	860.00	851.66	8.34	REMOVE	5X6 SAS
SAS 4158-011	32+67.24	RT-30.14	859.69	853.33	6.36	ABANDON	5X5 SAS
SAS 4157-007	34+58.34	RT-31.22	859.14	853.84	5.30	REMOVE	4X4 SAS
SAS 4157-002	35+03.65	RT-31.53	859.05	854.00	5.05	REMOVE	CLEANOUT
SAS 4157-008	35+64.28	LT-20.28	858.41	851.21	7.20	REMOVE	
SAS 4157-022	36+81.82	RT-32.73	859.42	852.50	6.92	REMOVE	4X4 SAS
SAS 4157-020	38+65.73	LT-17.63	859.36	850.86	8.50	REMOVE	4' PRECAST ROUND
SAS 4157-021	38+66.00	RT-31.08	859.82	852.14	7.68	ABANDON	4X4 SAS
SAS 4157-023	41+03.18	RT-31.26	860.96	855.34	5.62	ABANDON	4X4 SAS
SAS 4157-026	41+65.09	RT-33.18	861.10	849.60	11.50	REMOVE	4' PRECAST ROUND
SAS 4157-014	41+66.81	LT-18.52	861.26	850.68	10.58	REMOVE	4X4 SAS
SAS 4257-021	44+36.07	RT-31.54	863.43	857.13	6.30	ABANDON	3X3 SAS
SAS 4257-004	44+66.34	LT-17.33	863.95	850.83	13.12	REMOVE	4X4 SAS
SAS 4257-005	47+17.67	RT-32.00	868.93	862.37	6.56	REMOVE	3X3 SAS
SAS 4256-007	47+21.21	LT-18.01	868.71	861.91	6.80	REMOVE	4X4 SAS
SAS 4256-022	302+02.35	RT-1.13	870.85	862.11	8.74	REMOVE	4X4 SAS
SAS 4256-008	48+56.38	LT-18.28	871.31	864.81	6.50	ABANDON	4X4 SAS
SAS 4256-011	51+23.75	LT-18.63	881.89	872.49	9.40	REMOVE	4X4 SAS
SAS 4256-013	54+44.08	LT-15.51	894.22	886.12	8.10	REMOVE	4X4 SAS
SAS 4256-012	57+42.80	LT-14.80	903.83	895.43	8.40	REMOVE	4X4 SAS
SAS 4356-001	60+05.80	LT-15.35	911.46	904.26	7.20	REMOVE	
SAS 4355-010	60+84.25	LT-24.67	912.91	907.71	5.20	REMOVE	4' PRECAST ROUND
SAS 4355-009	63+08.34	LT-24.02	914.41	906.99	7.42	ABANDON	3X4 SAS
SAS 4355-008	65+54.32	LT-24.01	914.92	906.32	8.60	ABANDON	3X4 SAS
SAS 4355-007	67+06.18	LT-23.67	915.16	905.92	9.24	REMOVE	3X4 SAS
SAS 4355-006	69+34.49	RT-12.16	915.04	905.04	10.00	REMOVE	4' BRICK ROUND
SAS 4355-018	69+34.66	LT-25.37	915.27	905.23	10.04	REMOVE	4' PRECAST ROUND
SAS 4355-011	69+91.35	RT-12.21	915.18	904.48	10.70	REMOVE	4' BRICK ROUND
SAS 4355-015	73+61.37	RT-83.24	915.07	904.86	10.21	REMOVE	4X4 SAS (LINCOLN STREET)
SAS 4354-021	73+61.54	RT-7.51	917.93	908.06	9.87	REMOVE	
SAS 4354-022	76+49.49	RT-6.96	923.66	913.90	9.76	REMOVE	
SAS 4454-003	78+45.03	RT-11.51	923.74	914.34	9.40	REMOVE	4X4 SAS (VAN BUREN)
SAS 4454-004	79+94.08	RT-12.04	920.91	911.61	9.30	REMOVE	4X4 SAS
SAS 4454-061	80+28.87	RT-11.71	920.15	910.75	9.40	REMOVE	4' PRECAST ROUND
SAS 4454-005	82+14.16	RT-11.17	916.46	906.46	10.00	REMOVE	4' BRICK ROUND
SAS-4454-008	85+06.52	RT-11.03	907.22	888.47	18.75	REMOVE	4' BRICK ROUND
SAS 4454-043	86+39.41	RT-12.29	902.77	886.02	16.75	REMOVE	4' PRECAST ROUND
SAS 4453-019	89+22.58	LT-42.93	894.47	885.61	8.86	REMOVE	3.5X4 SAS

SANITARY SEWER REMOVALS AND ABANDOMENTS

FROM SAS (DWNSTRM)	TO SAS (UPSTREAM)	LENGTH Feet	PAID (Y/N)	PAY AMOUNT (FT)	SIZE (DIA in)	PIPE TYPE	NOTES	LOCATION
4060-003	4060-004	44.00	Y	44.00	12	VCP	ABANDON WITH SLURRY	SPRING TRAIL
4060-004	4060-001	207.00	N	0.00	12	VCP	REMOVE	NAKOMA RD
* 4060-001	SAS#58	104.00	Y	21.00	12	VCP	REMOVE	NAKOMA ROAD
* SAS#58	4059-005	89.00	Y	89.00	12	VCP	ABANDON WITH SLURRY	NAKOMA ROAD
4059-005	4059-002	215.00	Y	215.00	12	VCP	ABANDON WITH SLURRY	ODANA ROAD
STA 11+94.62 LT 26.32	4059-004	60.00	N	0.00	12	VCP	REMOVE	ODANA ROAD/MONROE ST
4059-027	SAS#61	8.00	N	0.00	12	VCP	REMOVE	MONROE ST/ LEWIS COURT
4059-015	4059-027	59.50	Y	59.50	12	CAST IRON	ABANDON WITH SLURRY	MONROE/LEWIS
4059-015	4059-014	85.50	Y	85.50	10	CAST IRON	ABANDON WITH SLURRY	MONROE/NAKOMA
4059-014	4059-013	70.50	Y	70.50	10	CAST IRON	ABANDON WITH SLURRY	MONROE/NAKOMA
4059-013	4059-012	81.00	Y	81.00	10	CAST IRON	ABANDON WITH SLURRY	MONROE/NAKOMA
4059-012	4059-006	113.00	Y	113.00	10	CAST IRON	ABANDON WITH SLURRY	MONROE/NAKOMA
4059-006	4060-002	104.00	Y	104.00	10	CAST IRON	ABANDON WITH SLURRY	NAKOMA ROAD
4060-002	4060-003	175.00	Y	175.00	14	CAST IRON	ABANDON WITH SLURRY	NAKOMA ROAD
4059-027	SAS#49	72.00	Y	72.00	6	VCP	ABANDON WITH SLURRY	LEWIS STREET
4059-016	4059-017	55.00	Y	55.00	6	VCP	ABANDON WITH SLURRY	MONROE(LEWIS TO GLENWAY)
* MH 02-146	4059-019	15.00	N	0.00	8	VCP	REMOVE	GLENWAY
4059-019	4059-016	231.00	Y	231.00	10	CAST IRON	ABANDON WITH SLURRY	MONROE ST (GLENWAY TO WEST)
4059-016	4059-015	229.00	Y	229.00	10	CAST IRON	ABANDON WITH SLURRY	MONROE ST (GLENWAY TO WEST)
4059-017	4059-018	197.50	Y	197.50	6	VCP	ABANDON WITH SLURRY	MONROE ST (LEWIS TO GLENWAY)
4059-017	SAS 4059-026	58.00	Y	58.00	6	VCP	ABANDON WITH SLURRY	MONROE ST (LEWIS TO GLENWAY)
4059-019	4059-022	57.50	Y	57.50	12	VCP	REMOVE	GLENWAY
4059-022	4059-023	66.00	Y	66.00	12	VCP	ABANDON WITH SLURRY	GLENWAY
* 4059-023	SAS#44	27.00	Y	27.00	8	VCP	REMOVE	GLENWAY/WYOTA
4059-023	SAS#45	203.50	Y	30.00	12	VCP	ABANDON WITH SLURRY	GLENWAY/WYOTA
4059-022	4059-021	128.50	Y	128.50	6	VCP	ABANDON WITH SLURRY	MONROE ST(GLENWAY TO COPELAND)
4059-020	4059-019	279.50	Y	279.50	10	CAST IRON	ABANDON WITH SLURRY	MONROE ST(GLENWAY TO COPELAND)
4059-001	4059-020	43.50	Y	43.50	10	CAST IRON	ABANDON WITH SLURRY	COPELAND STREET
4059-001	SAS#41	331.00	N	0.00	6	VCP	REMOVE	COPELAND
4058-027	4059-001	277.00	Y	277.00	12	CAST IRON	ABANDON WITH SLURRY	MONROE(COPELAND-WESTERN)
4058-027	SAS#43	44.50	Y	44.50	6	VCP	REMOVE	WESTERN AVE.
4158-008	4158-005	300.00	Y	300.00	12	CAST IRON	ABANDON WITH SLURRY	MONROE(WESTERN-GILMORE)
4158-005	4058-027	300.00	Y	300.00	12	CAST IRON	ABANDON WITH SLURRY	MONROE(GILMORE-CHAPMAN)
4158-008	SAS#36	19.00	N	0.00	8	VCP	REMOVE	CHAPMAN
SAS#36	28+69.33 RT 29.22	30.00	Y	30.00	8	VCP	ABANDON WITH SLURRY	CHAPMAN/ ARBOR ST.
4158-008	SAS#60	12.00	N	0.00	8	PVC	REMOVE	CHAPMAN
4158-010	4158-008	298.50	Y	298.50	12	CAST IRON	ABANDON WITH SLURRY	MONROE(CHAPMAN-BALTZELL)
4157-008	4158-010	299.00	Y	299.00	12	CAST IRON	ABANDON WITH SLURRY	MONROE(BALTZELL-PICKFORD)
SAS#35	4158-010	17.00	N	0.00	6	VCP	REMOVE	BALTZELL STREET
SAS#35	4158-011	31.00	Y	31.00	6	VCP	ABANDON WITH SLURRY	BALTZELL STREET
SAS 4158-011	4158-003	232.50	Y	232.50	5	VCP	ABANDON WITH SLURRY	MONROE(CHAPMAN-BATLZELL)
SAS 4158-011	4157-007	191.00	Y	191.00	6	VCP	ABANDON WITH SLURRY	MONROE(BALTZELL-PICKFORD)
4157-007	4157-002	45.00	Y	45.00	6	VCP	ABANDON WITH SLURRY	MONROE(BALTZELL-PICKFORD)
4157-008	4158-010	301.00	Y	301.00	16	CAST IRON	ABANDON WITH SLURRY	MONROE(BALTZELL-PICKFORD)
4157-020	4157-008	301.50	Y	301.50	16	CAST IRON	ABANDON WITH SLURRY	MONROE(PICKFORD-CRANDALL)
4157-021	4157-022	184.00	Y	184.00	6	VCP	ABANDON WITH SLURRY	MONROE(PICKFORD-CRANDALL)
4157-021	4157-023	237.00	Y	237.00	6	VCP	ABANDON WITH SLURRY	MONROE(CRANDALL-KNICKERBOCKER)
4157-020	4157-021	48.50	Y	48.50	6	VCP	REMOVE	CRANDALL ST.
4157-020	SAS #33	26.00	N	0.00	6	VCP	REMOVE	CRANDALL ST.
4157-014	4157-020	301.00	Y	301.00	16	CAST IRON	ABANDON WITH SLURRY	MONROE(CRANDALL-KNICKERBOCKER)
SAS#18	4157-014	17.50	N	0.00	20	CAST IRON	REMOVE	KNICKERBOCKER
* 4157-026	SAS#18	51.50	N	0.00	20	CAST IRON	REMOVE	KNICKERBOCKER
4157-014	4257-004	299.50	Y	299.50	16	CAST IRON	ABANDON WITH SLURRY	MONROE(KNICKERBOCKER-SPRAGUE)
4157-026	4257-021	271.00	Y	271.00	6	VCP	ABANDON WITH SLURRY	MONROE(KNICKERBOCKER-SPRAGUE)
4257-004	4256-007	255.00	Y	255.00	16	CAST IRON	ABANDON WITH SLURRY	MONROE(SPRAGUE-COMMONWEALTH)
4257-021	4257-005	281.50	Y	281.50	6	VCP	ABANDON WITH SLURRY	MONROE(SPRAGUE-COMMONWEALTH)
4256-007	SAS#21	34.50	Y	34.50	10	VCP	ABANDON WITH SLURRY	COMMONWEALTH AVE.
SAS#21	4256-022	165.00	N	0.00	10	VCP	REMOVE	COMMONWEALTH AVE.
4256-007	4256-008	135.00	Y	135.00	14	CAST IRON	ABANDON WITH SLURRY	MONROE(COMMONWEALTH TO WEST LAWN)
4256-008	4256-011	267.50	Y	267.50	8	VCP	ABANDON WITH SLURRY	MONROE(COMMONWEALTH TO WEST LAWN)
4256-011	4256-026	86.50	Y	86.50	8	LINED VCP	ABANDON WITH SLURRY	WEST LAWN AVE.
4256-011	4256-013	320.50	Y	320.50	6	VCP	ABANDON WITH SLURRY	MONROE(WEST LAWN-TERRY PLACE)
4256-013	4256-012	299.00	Y	299.00	6	VCP	ABANDON WITH SLURRY	MONROE(TERRY PLACE-WOODROW)

SANITARY SEWER REMOVAL AND ABANDONMENT SCHEDULE

MONROE STREET RECONSTRUCTION 2018 PROJECT NO. 10251	SHEET NO. SN-29
SANITARY SEWER REMOVAL & ABANDONMENT SCHEDULE	
CITY OF MADISON	

\* REV. 12/12/17 MDM

STRUCTURE REMOVAL AND ABANDONMENTS

SAS NO.	STATION	LOCATION (OFFSET)	TOP OF CASTING	E.I.	DEPTH	REM./ABAN.	NOTES
SAS 4453-018	89+29.80	RT-10.73	894.51	885.01	9.50	REMOVE	3.5X4 SAS
SAS 4453-017	91+00.08	RT-12.08	888.73	878.78	9.95	REMOVE	4' ROUND BRICK
SAS 4453-020	94+22.47	RT-10.47	876.75	867.04	9.71	REMOVE	3X3 SAS
SAS 4553-013	97+06.28	RT-12.00	868.18	863.44	4.74	REMOVE	4' ROUND BRICK
SAS 4553-044	2+89.62	RT-2.61	874.82	865.13	9.69	REMOVE	4X4 SAS

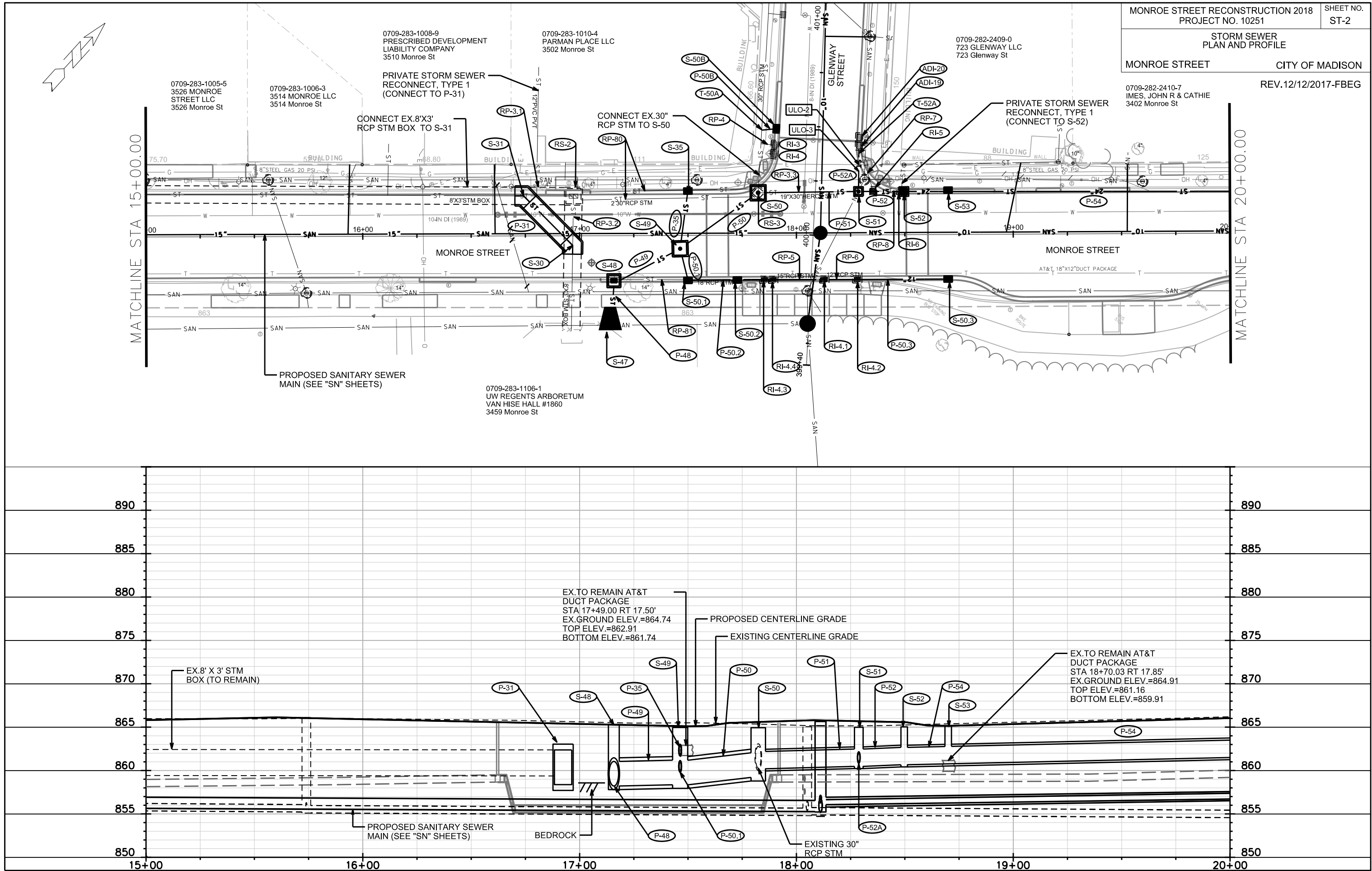
SANITARY SEWER REMOVALS AND ABANDOMENTS

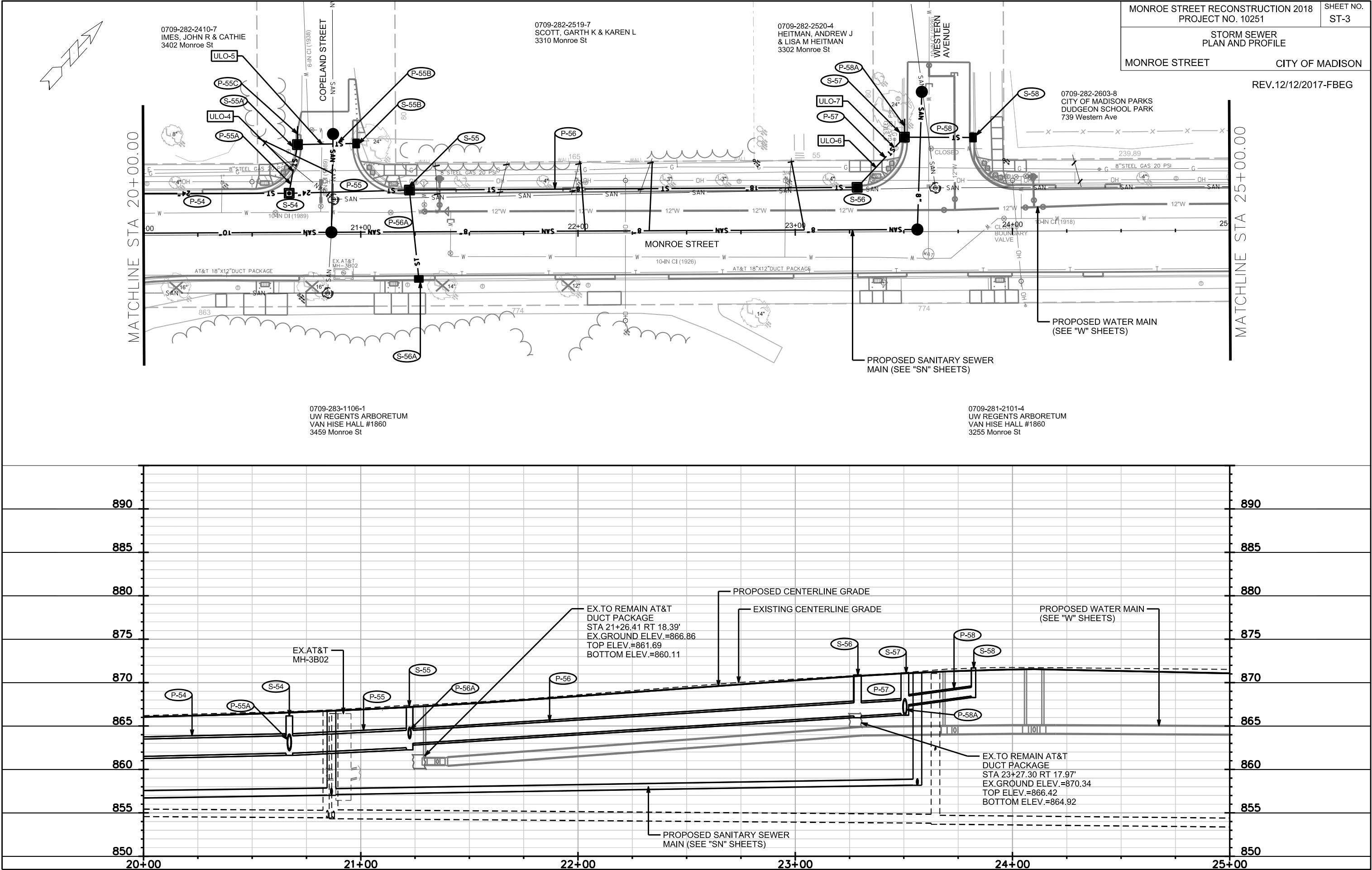
FROM SAS (DWNSTRM)	TO SAS (UPSTREAM)	LENGTH Feet	PAID (Y/N)	PAY AMOUNT (FT)	SIZE (DIA in)	PIPE TYPE	NOTES	LOCATION
4256-012	4356-001	263.00	Y	263.00	6	VCP	ABANDON WITH SLURRY	MONROE(WOODROW-LEONARD STREET)
4355-009	4355-010	224.00	Y	224.00	6	VCP	ABANDON WITH SLURRY	MONROE(LEONARD ST- EDGEWOOD AVE.)
4355-008	4355-009	246.00	Y	246.00	6	VCP	ABANDON WITH SLURRY	MONROE(LEONARD ST- EDGEWOOD AVE.)
4355-007	4355-008	152.00	Y	152.00	6	VCP	ABANDON WITH SLURRY	MONROE(LEONARD ST- EDGEWOOD AVE.)
4355-018	4355-007	228.50	Y	228.50	6	VCP	ABANDON WITH SLURRY	MONROE(LEONARD ST- EDGEWOOD AVE.)
4355-006	4355-018	37.50	N	0.00	6	VCP	REMOVE	EDGEWOOD DRIVE
4355-011	4355-006	56.90	N	0.00	6	VCP	REMOVE	MONROE ST./EDGEWOOD AVE.
4355-022	4355-011	22.20	N	0.00	6	VCP	REMOVE	EDGEWOOD AVE.
4355-011	SAS#59	340.00	N	0.00	6	VCP	REMOVE	MONROE ST.(EDGEWOOD AVE.-LINCOLN ST)
* SAS#59	4354-021	30.00	Y	30.00	6	VCP	REMOVE	MONROE ST.(EDGEWOOD AVE.-LINCOLN ST)
4354-021	4354-022	288.00	Y	288.00	6	VCP	REMOVE	MONROE ST.(LINCOLN ST- VAN BUREN)
* 4454-004	4454-003	121.80	N	0.00	6	VCP	REMOVE	MONROE ST.(VAN BUREN-HARRISON)
4454-061	4454-004	34.80	N	0.00	6	VCP	REMOVE	MONROE ST.(VAN BUREN-HARRISON)
4454-005	4454-061	185.30	N	0.00	6	VCP	REMOVE	MONROE ST.(VAN BUREN-HARRISON)
4454-008	SAS 4454-005	292.40	N	0.00	8	VCP	REMOVE	MONROE ST.(HARRISON-WEST LAWN)
4454-043	4454-008	133.00	Y(PARTIAL)	13.00	10	VCP	REMOVE	MONROE ST.(HARRISON-WEST LAWN)
* 4454-043	SAS#8	4.00	N	0.00	10	PVC	REMOVE PIPE & CASING	MONROE ST./WEST LAWN
4454-043	SAS#9	29.00	N	0.00	8	LINED VCP	REMOVE	MONROE ST./GRANT STREET
4453-018	4454-043	290.00	Y(PARTIAL)	32.00	10	VCP	REMOVE	MONROE ST.(GRANT STREET-STOCKTON)
4453-018	4453-019	54.00	Y	54.00	6	VCP	ABANDON WITH SLURRY	STOCKTON COURT
4453-019	SAS #7	19.00	Y	19.00	6	VCP	ABANDON WITH SLURRY	STOCKTON COURT
4453-017	4453-018	170.50	N	0.00	10	VCP	REMOVE	MONROE ST.(STOCKTON- GARFIELD STREET)
4453-020	4453-017	322.50	N	0.00	10	VCP	REMOVE	MONROE ST.(GARFIELD STREET_S. BREESE TERR.)
4553-013	4453-020	284.00	N	0.00	10	VCP	REMOVE	MONROE ST.(S. BREESE TERR.- OAKLAND)
4553-063	4553-013	34.00	N	0.00	6"	VCP	REMOVE	OAKLAND
4553-013	4553-044	136.50	N	0.00	8	VCP	REMOVE	CRAZYLEGS LANE
SAS#2	4553-013	117.00	N	0.00	10	VCP	REMOVE	MONROE ST.(OAKLAND- REGENT STREET)
4552-001	SAS#21	170.00	Y	170.00	10	VCP	ABANDON WITH SLURRY	MONROE ST.(OAKLAND- REGENT STREET)
4552-001	4553-044	311.00	Y	311.00	18	CAST IRON	ABANDON WITH SLURRY	REGENT STREET(MONROE-BREESE TERRACE)
4552-005	4552-001	32.50	Y	32.50	18	CAST IRON	ABANDON WITH SLURRY	MONROE/REGENT STREET
4552-005	4552-006	146.00	Y	146.00	18	CAST IRON	ABANDON WITH SLURRY	MONROE/REGENT STREET

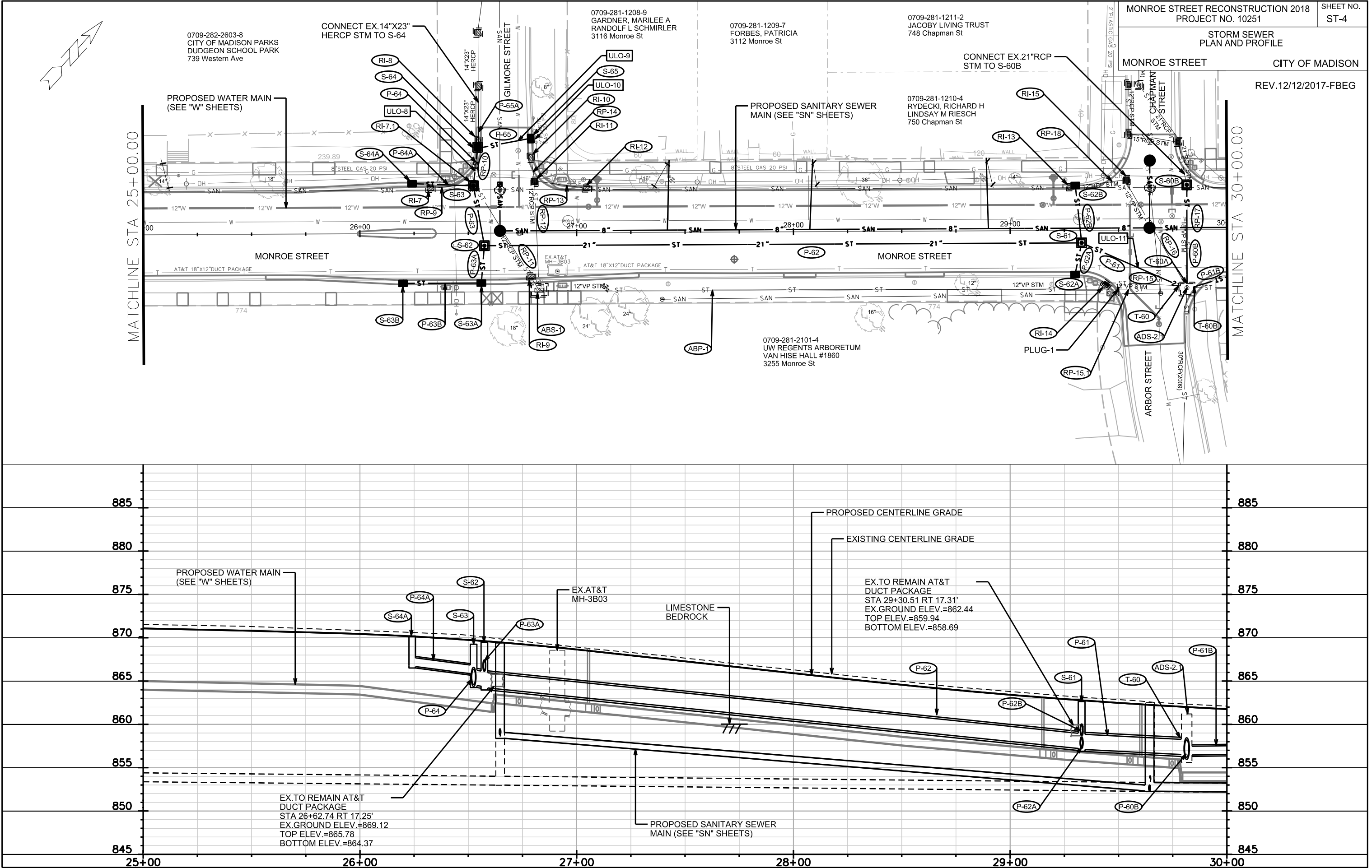










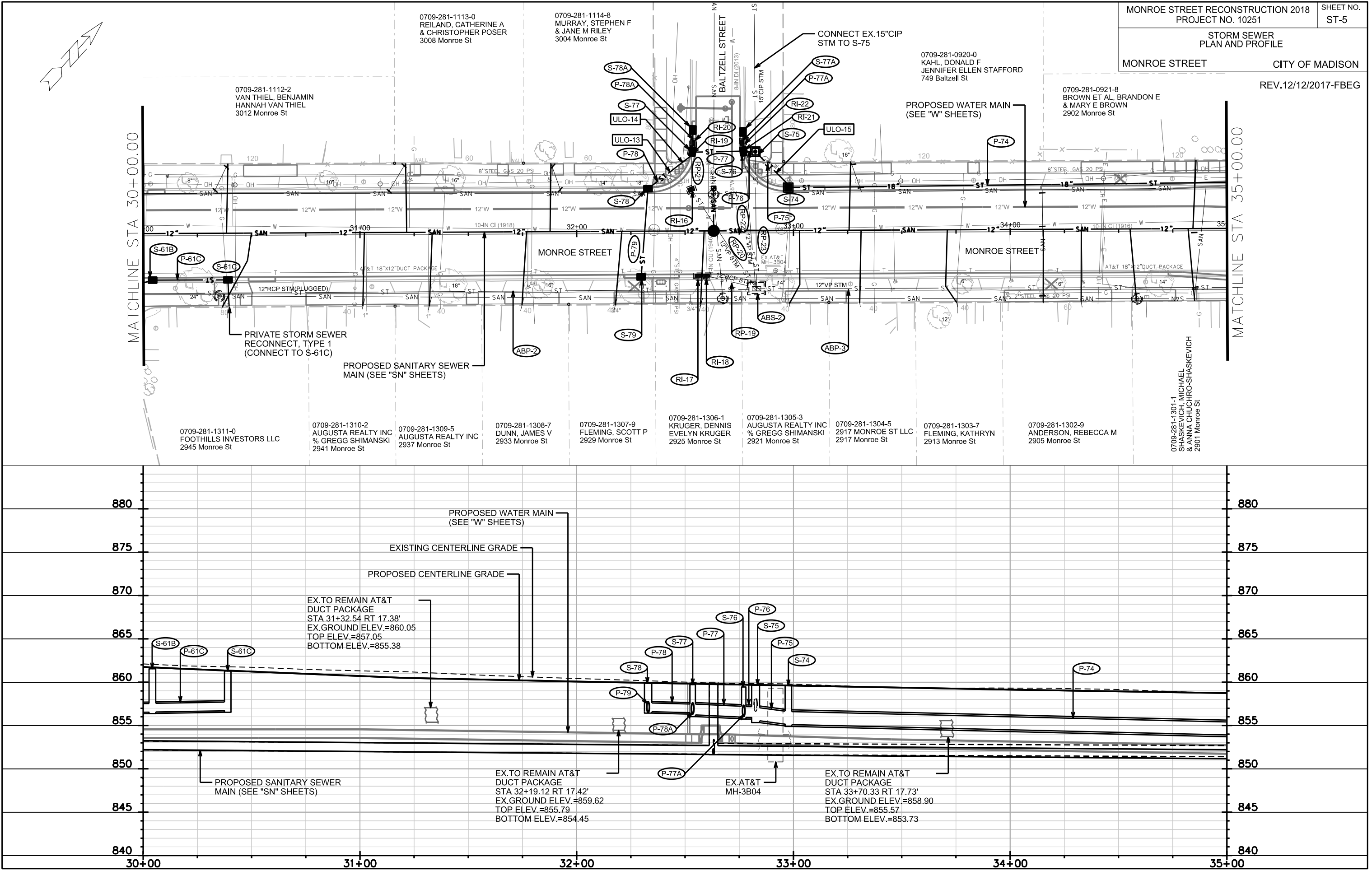


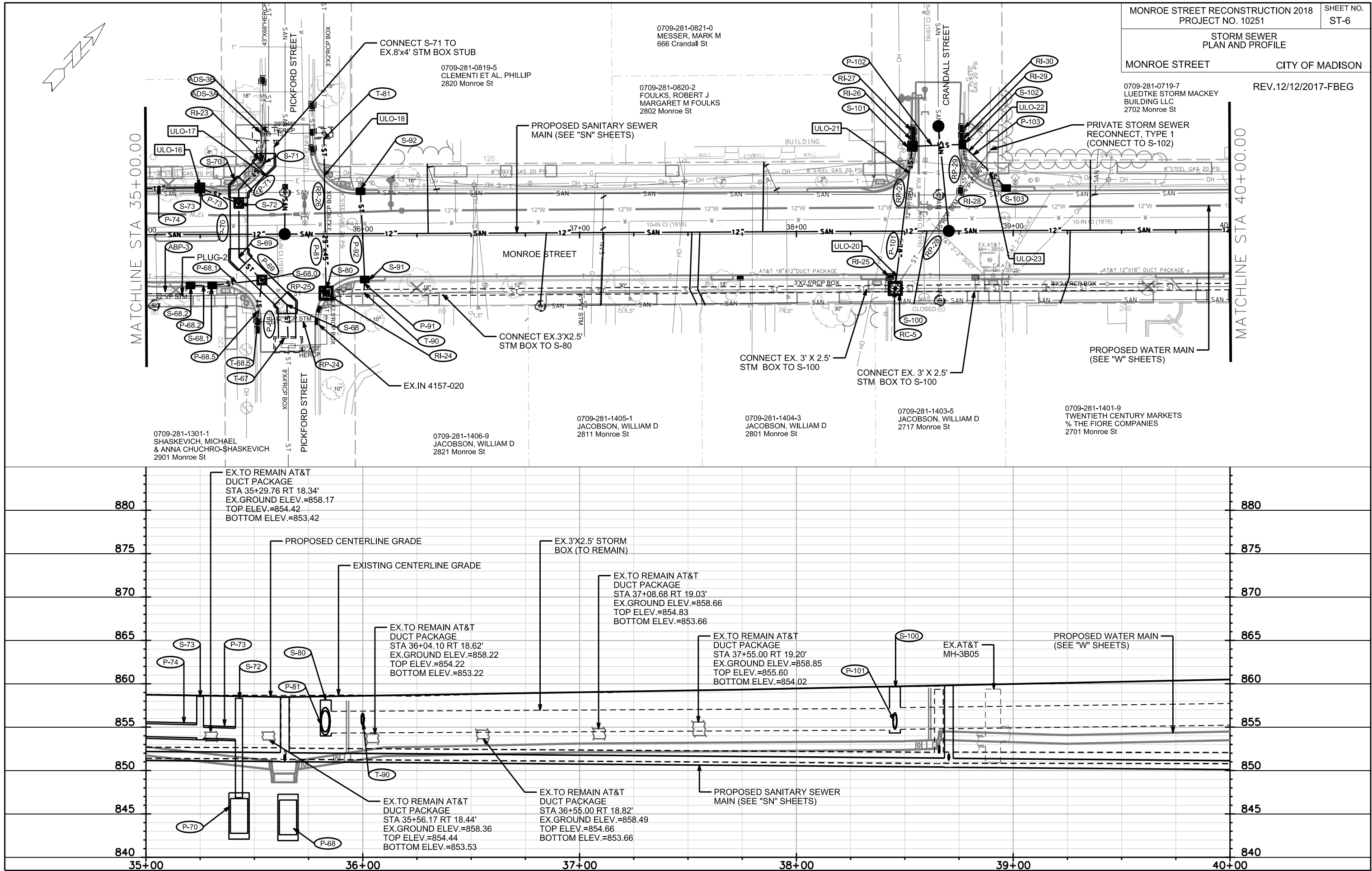
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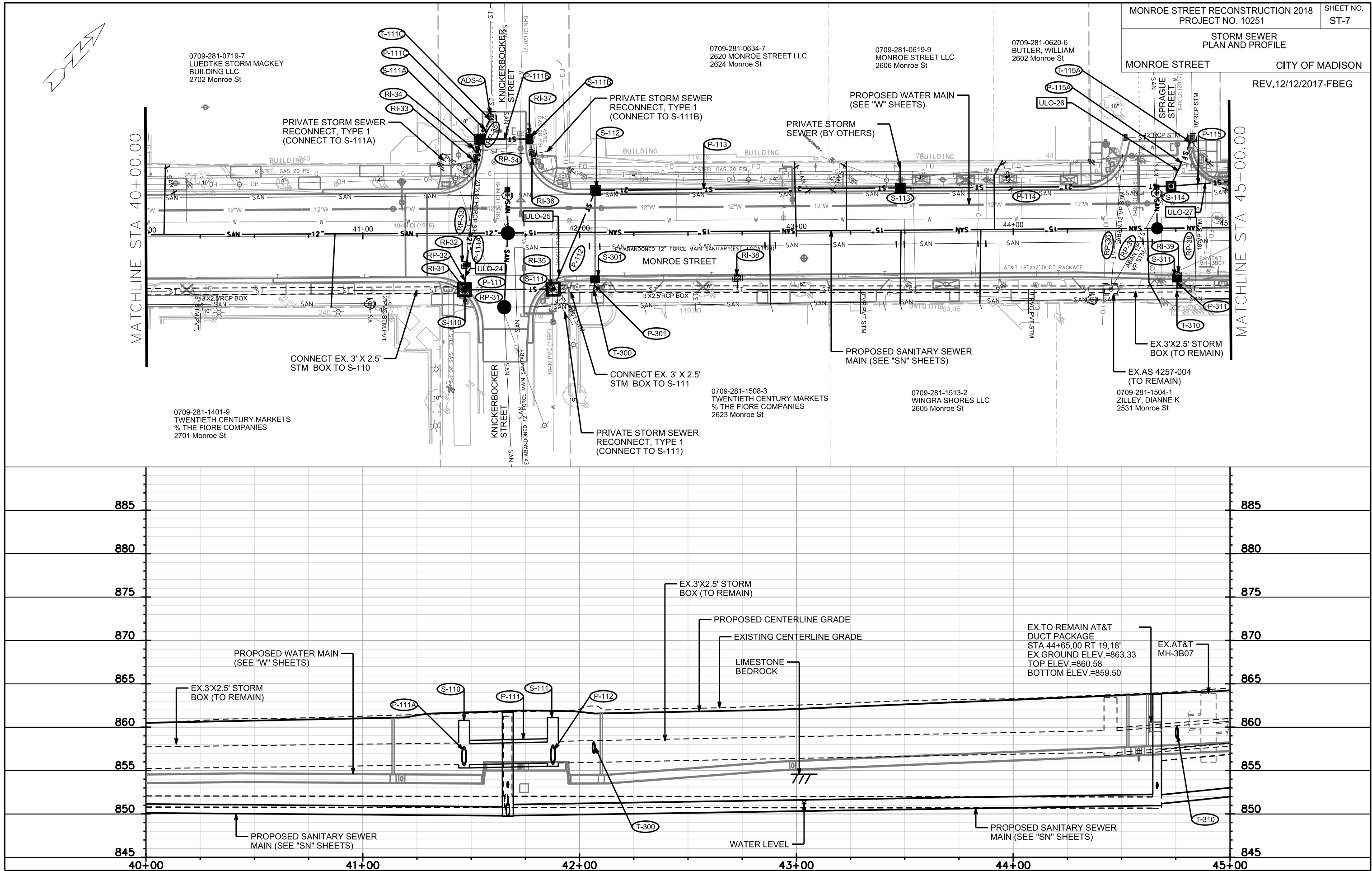
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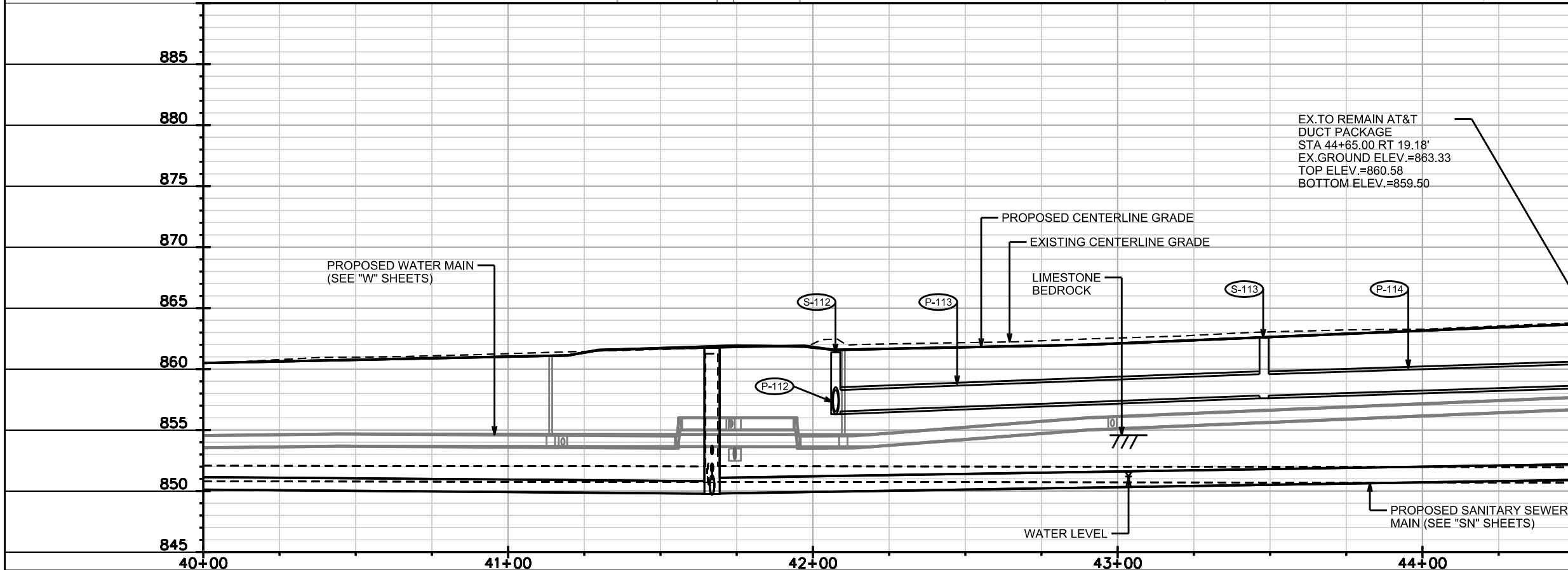
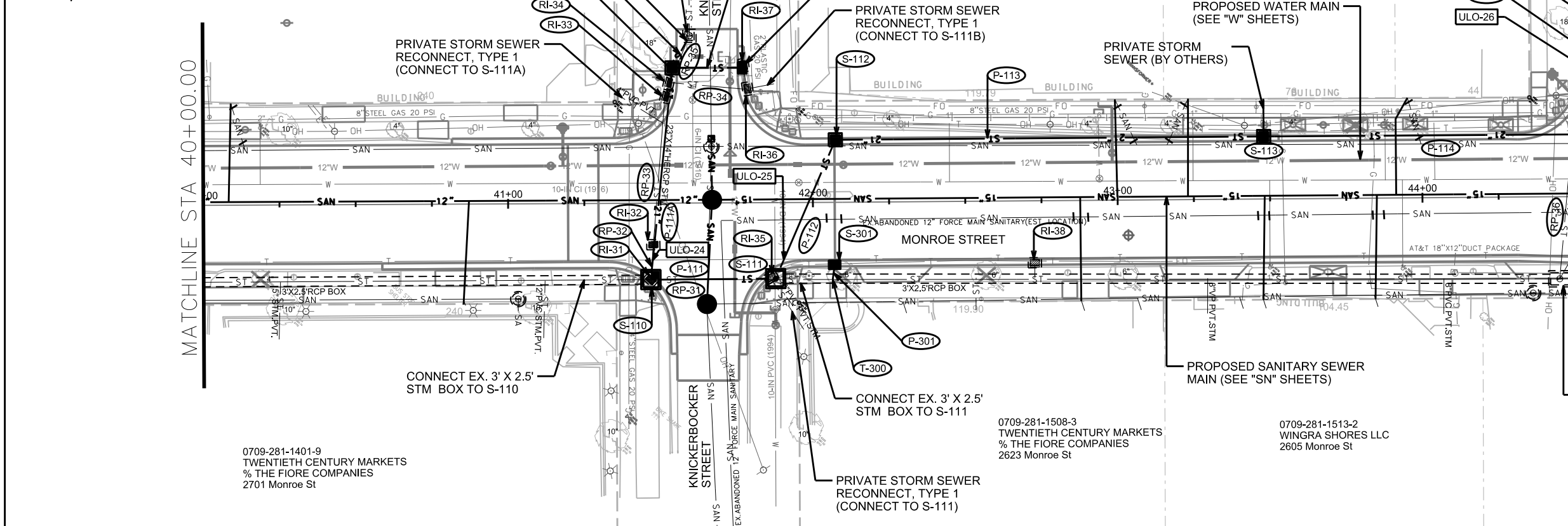
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ORIGINATOR: CITY OF MADISON, STREETS DIVISION

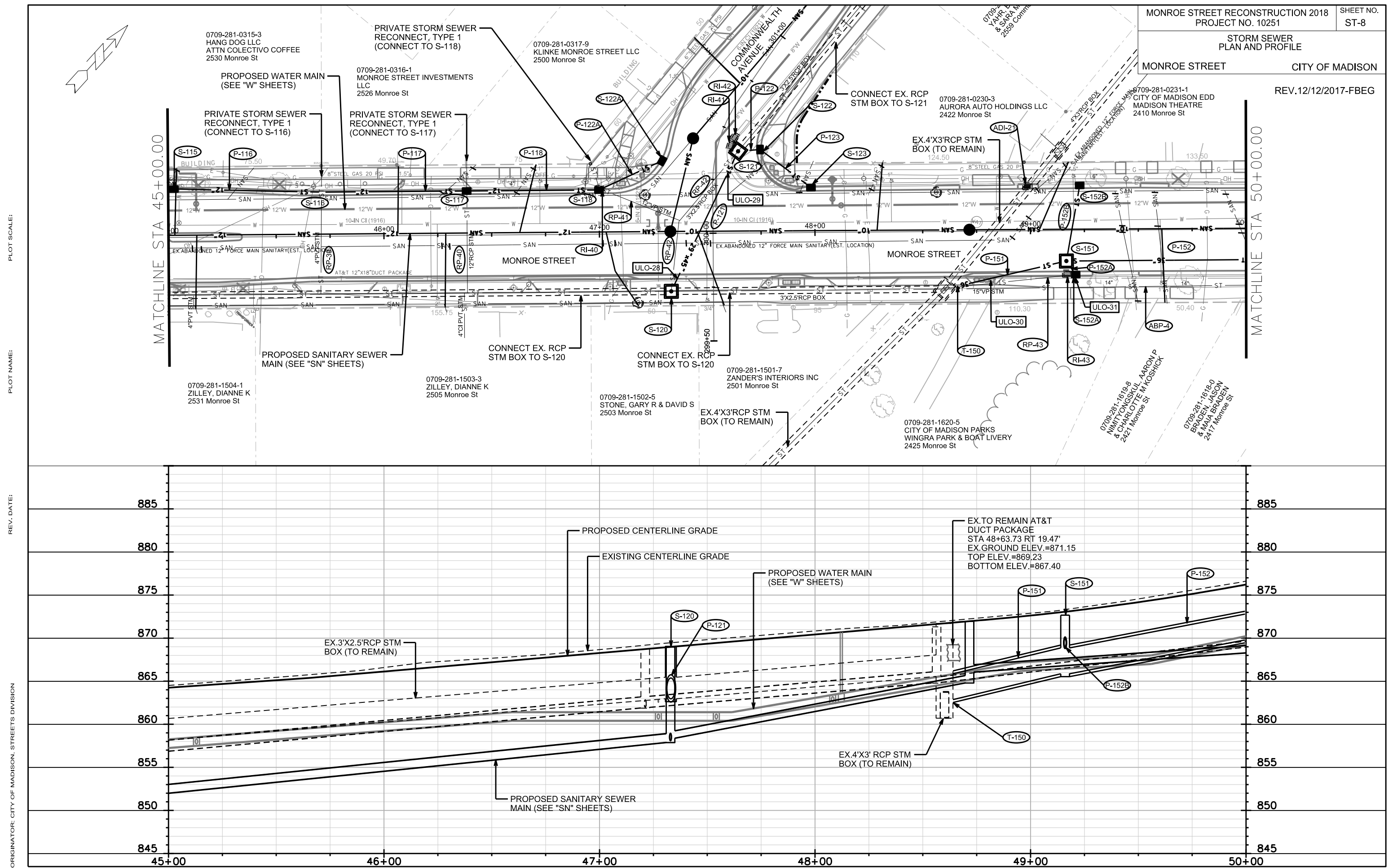




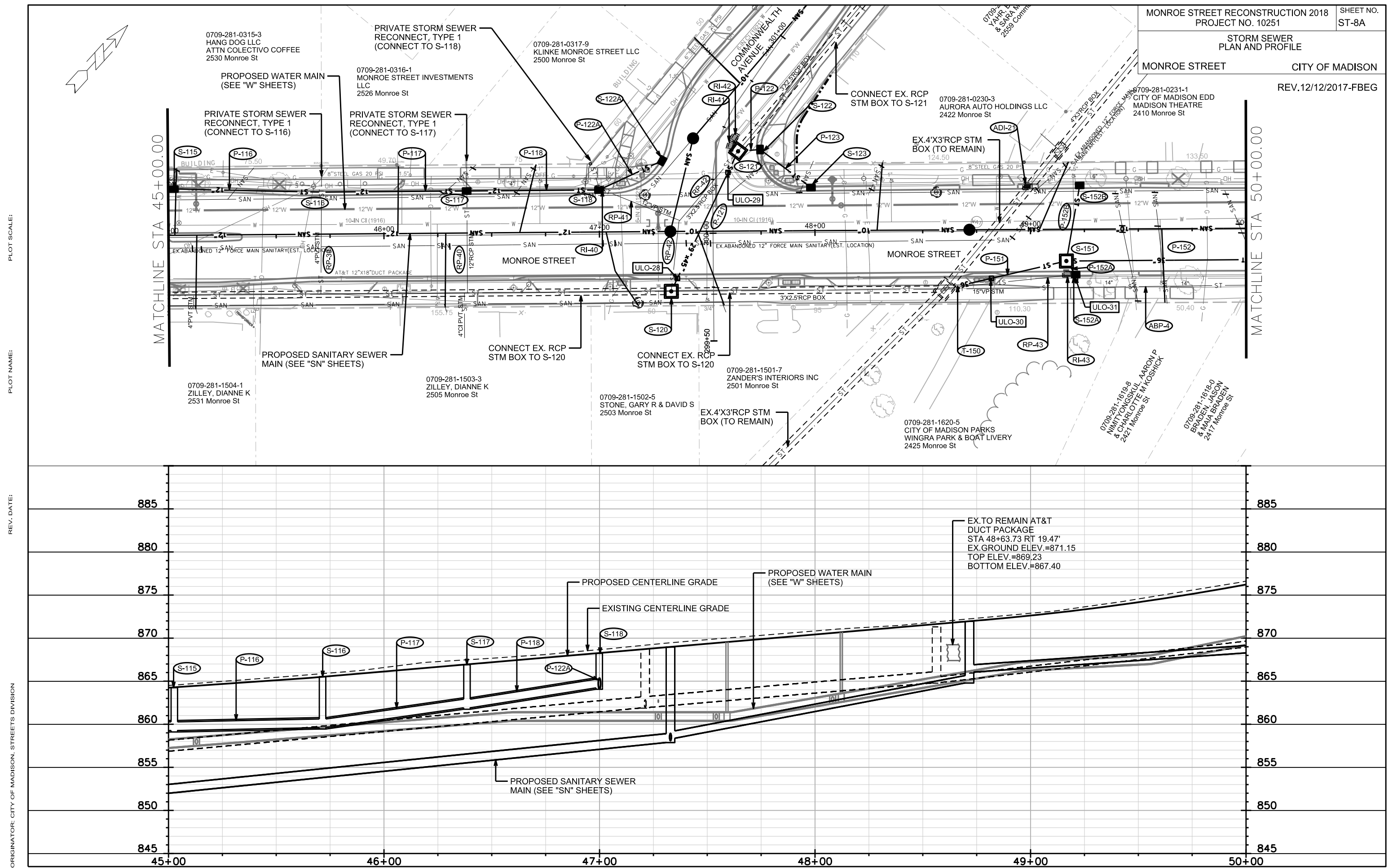










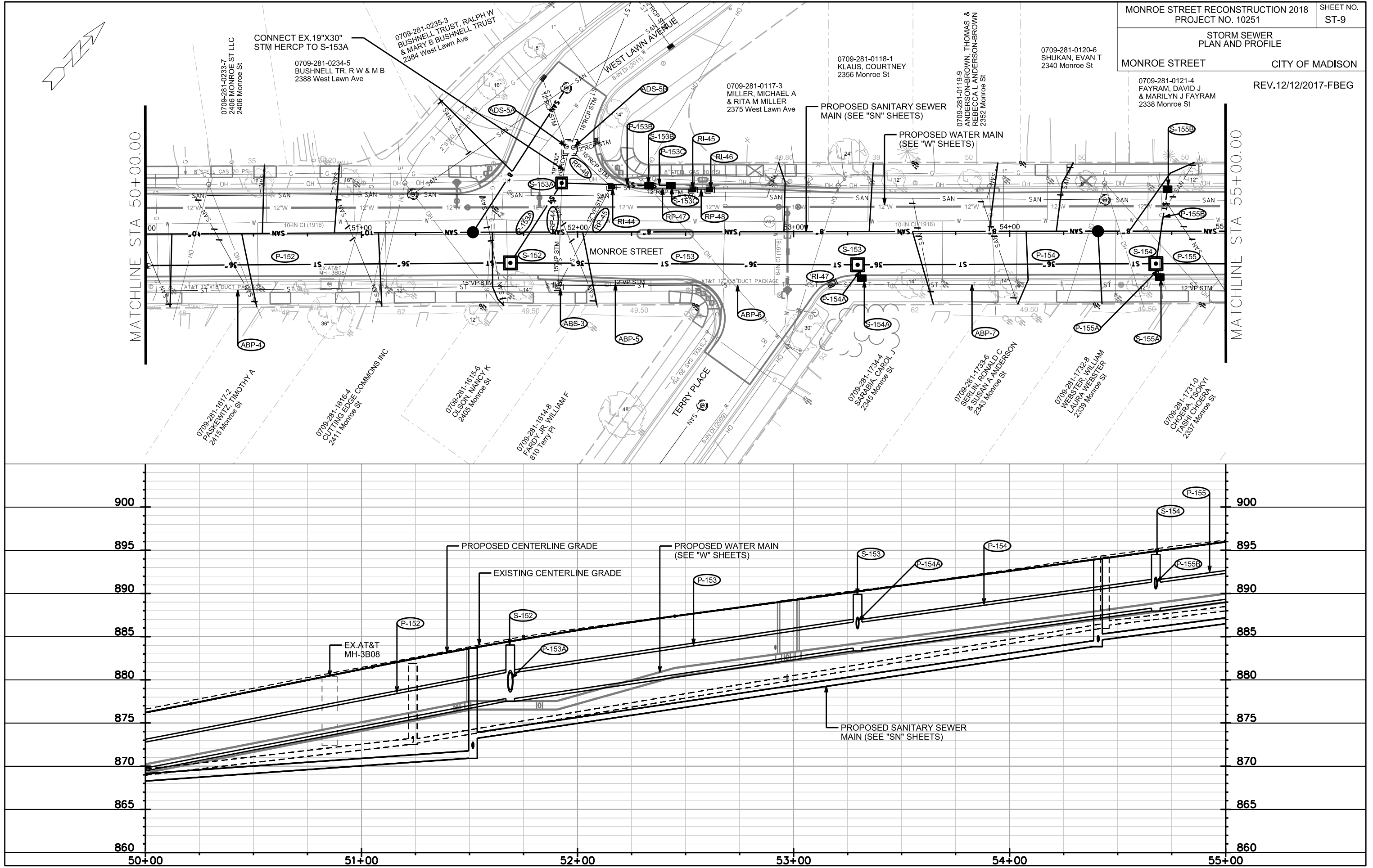


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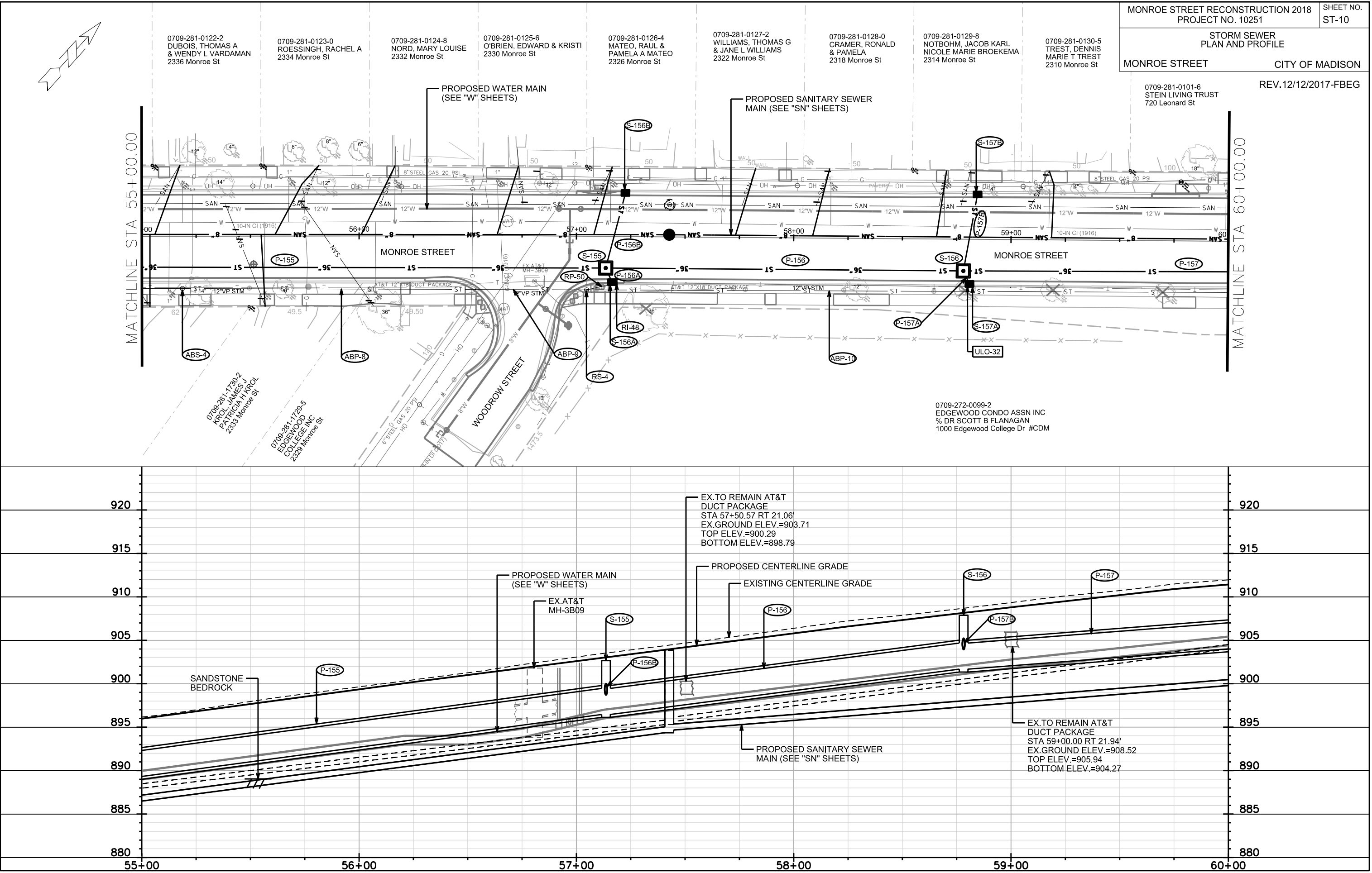


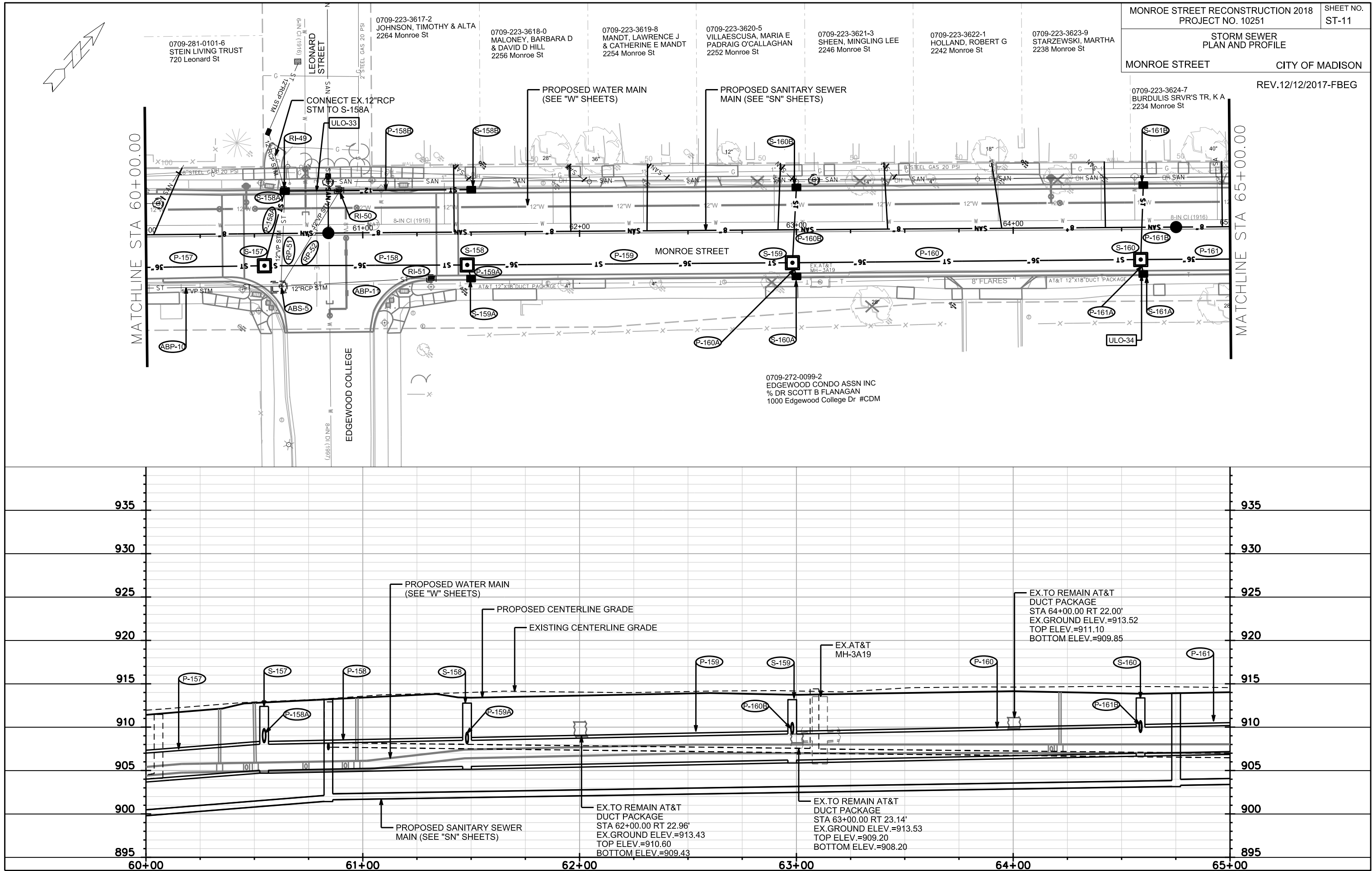
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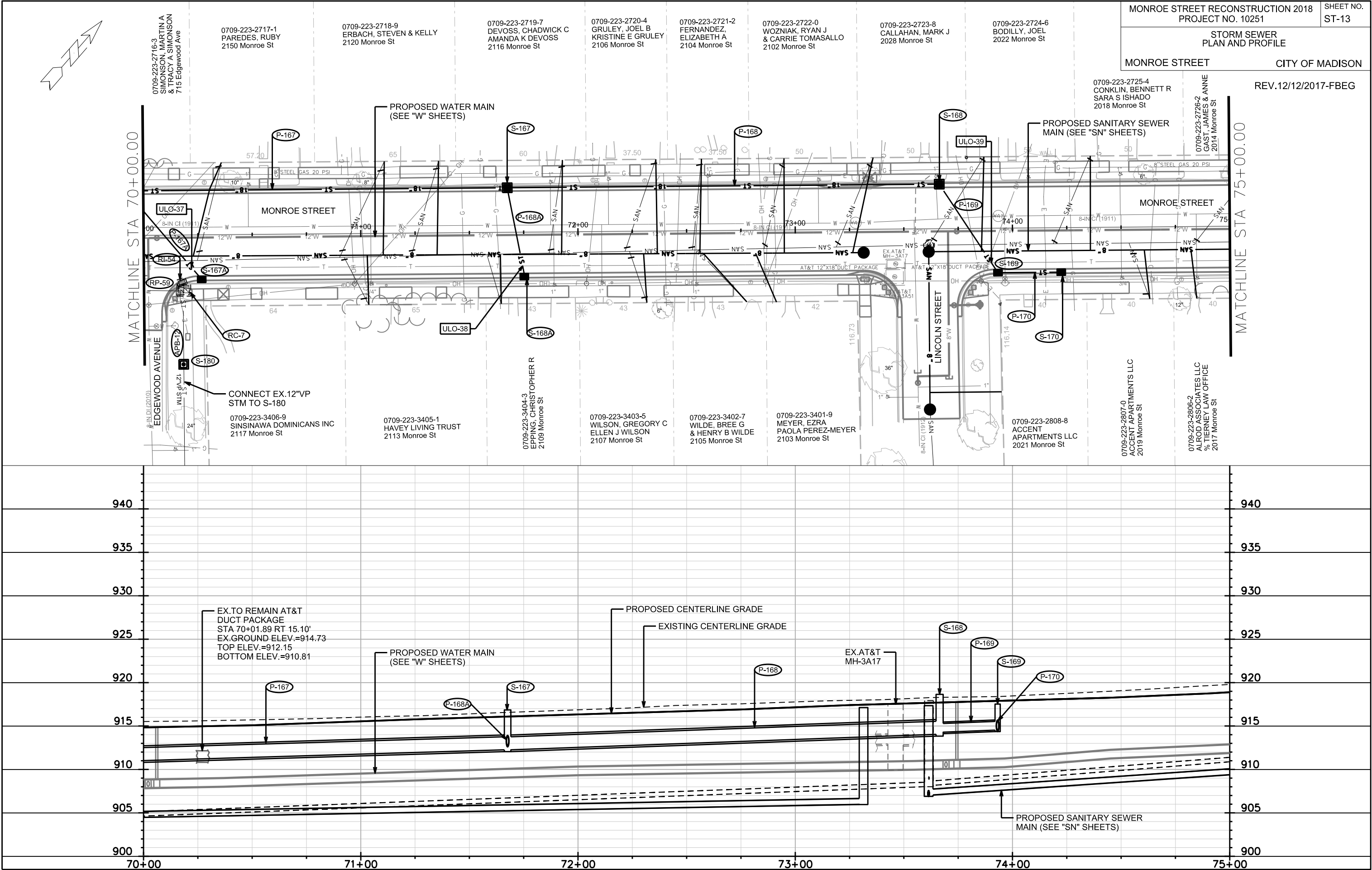
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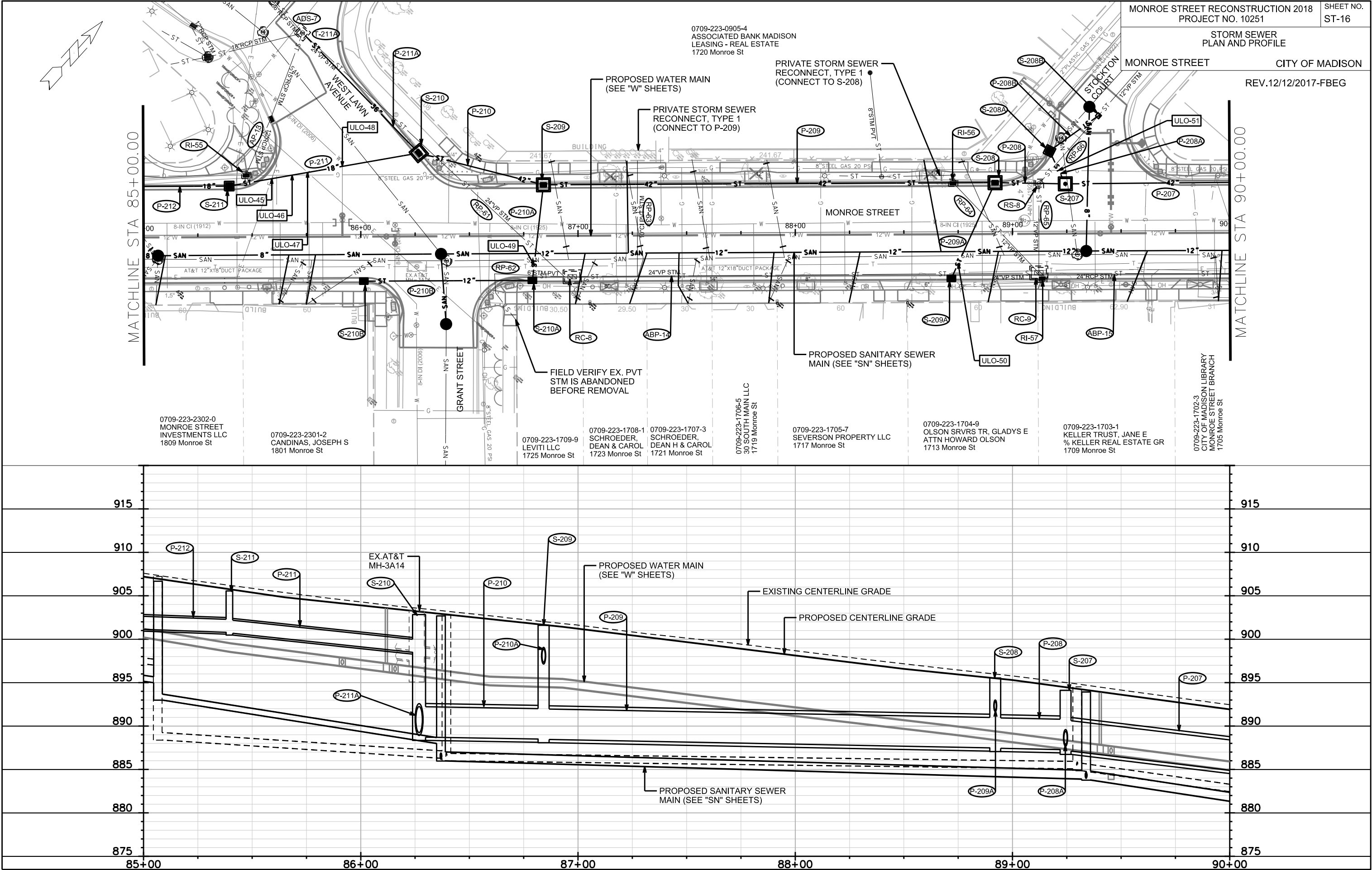


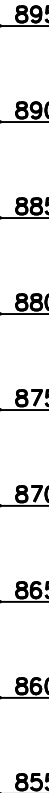
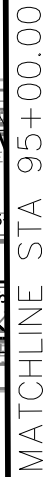
REV.12/12/2017-FBEG



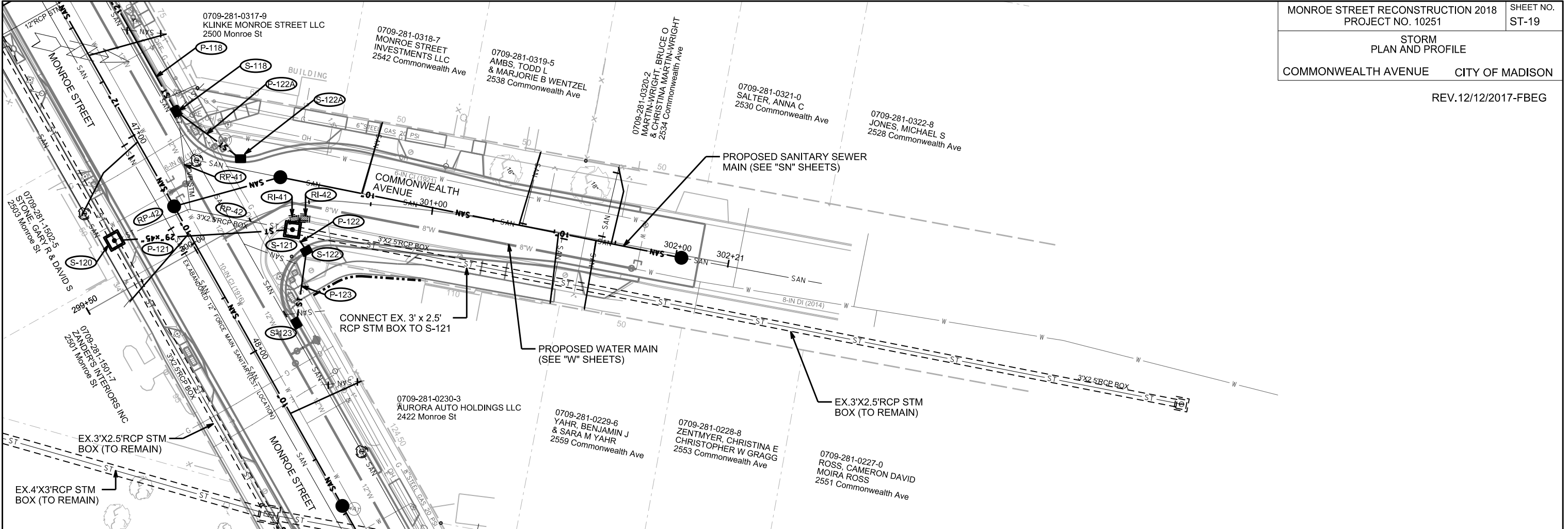












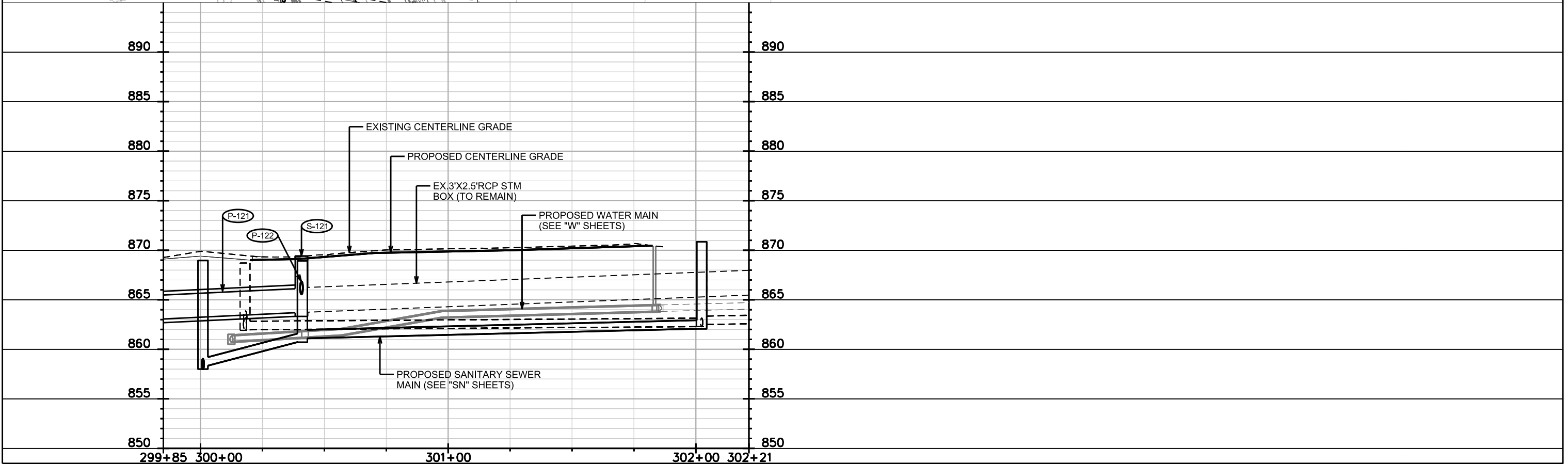
MONROE STREET RECONSTRUCTION 2018  
PROJECT NO. 10251

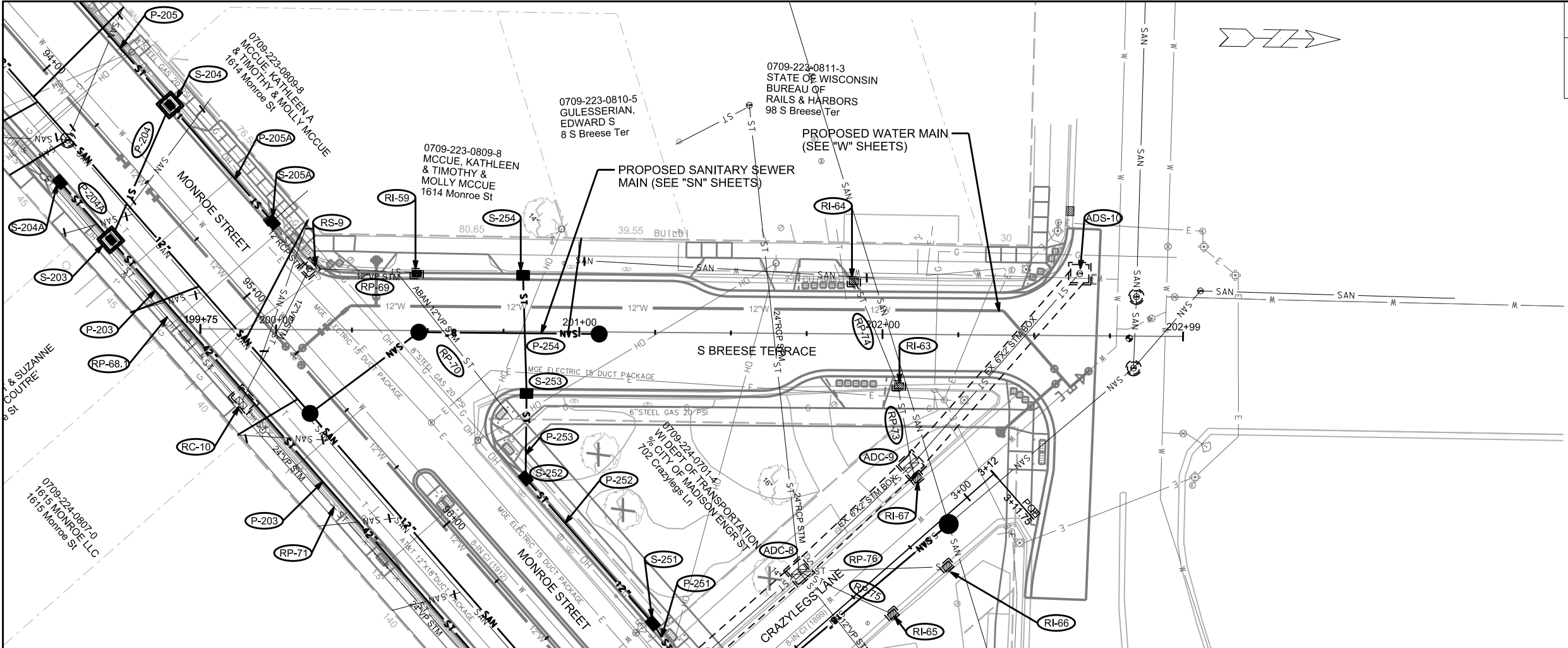
SHEET NO.  
ST-19

STORM  
PLAN AND PROFILE

COMMONWEALTH AVENUE CITY OF MADISON

REV.12/12/2017-FBEG





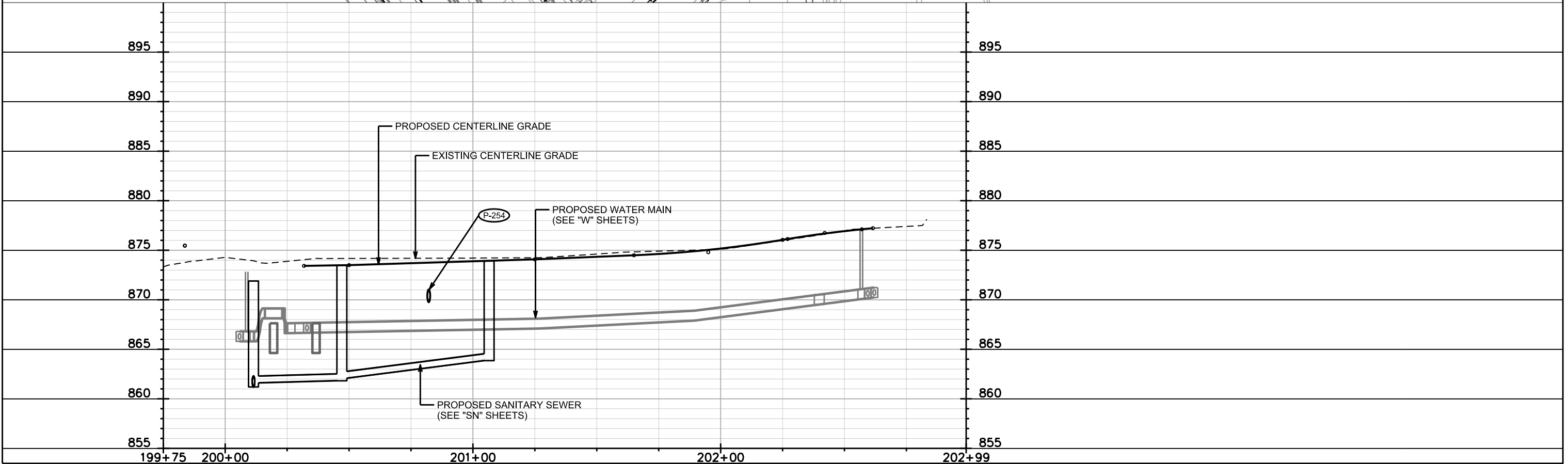
MONROE STREET RECONSTRUCTION 2018  
PROJECT NO. 10251

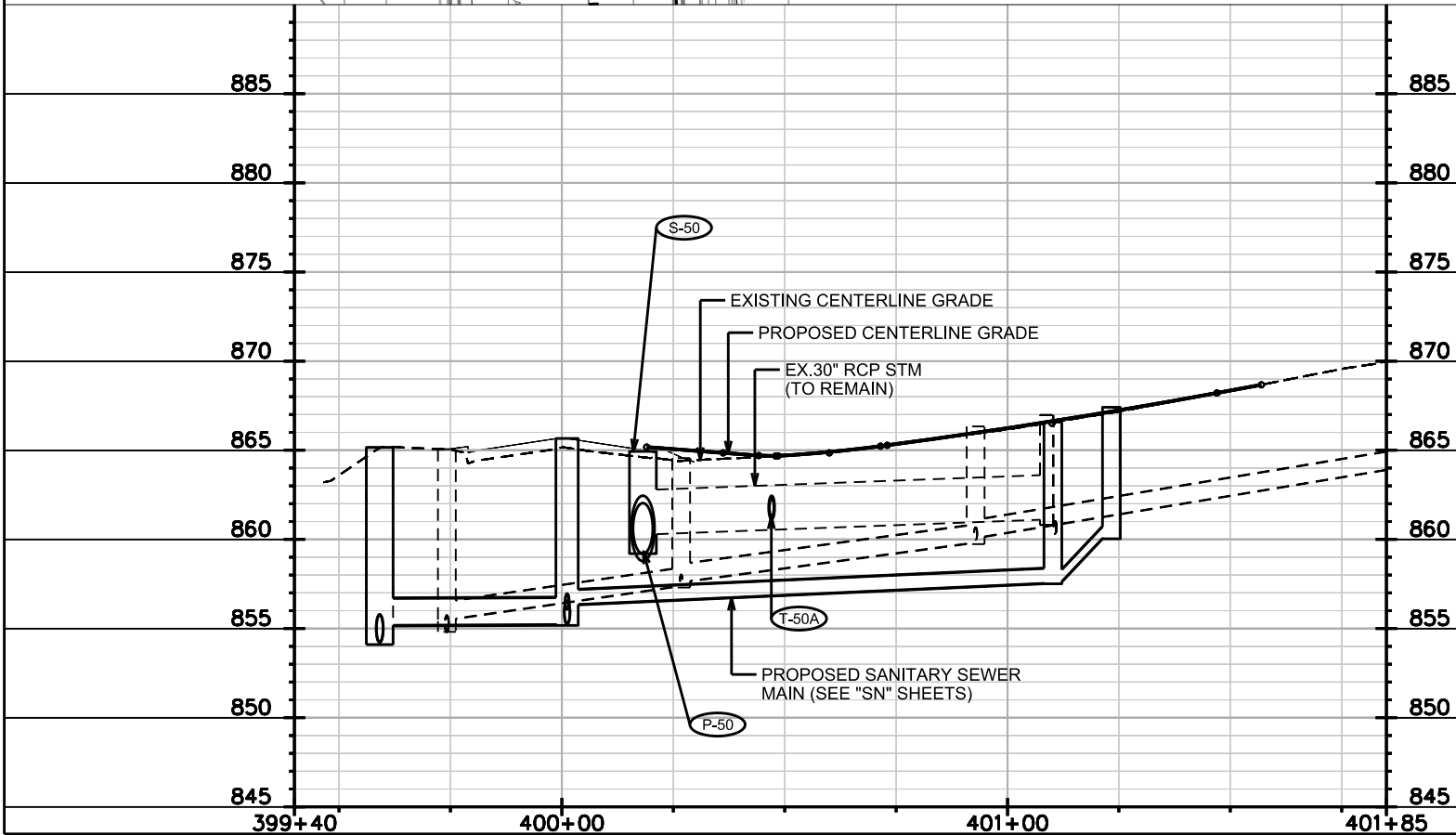
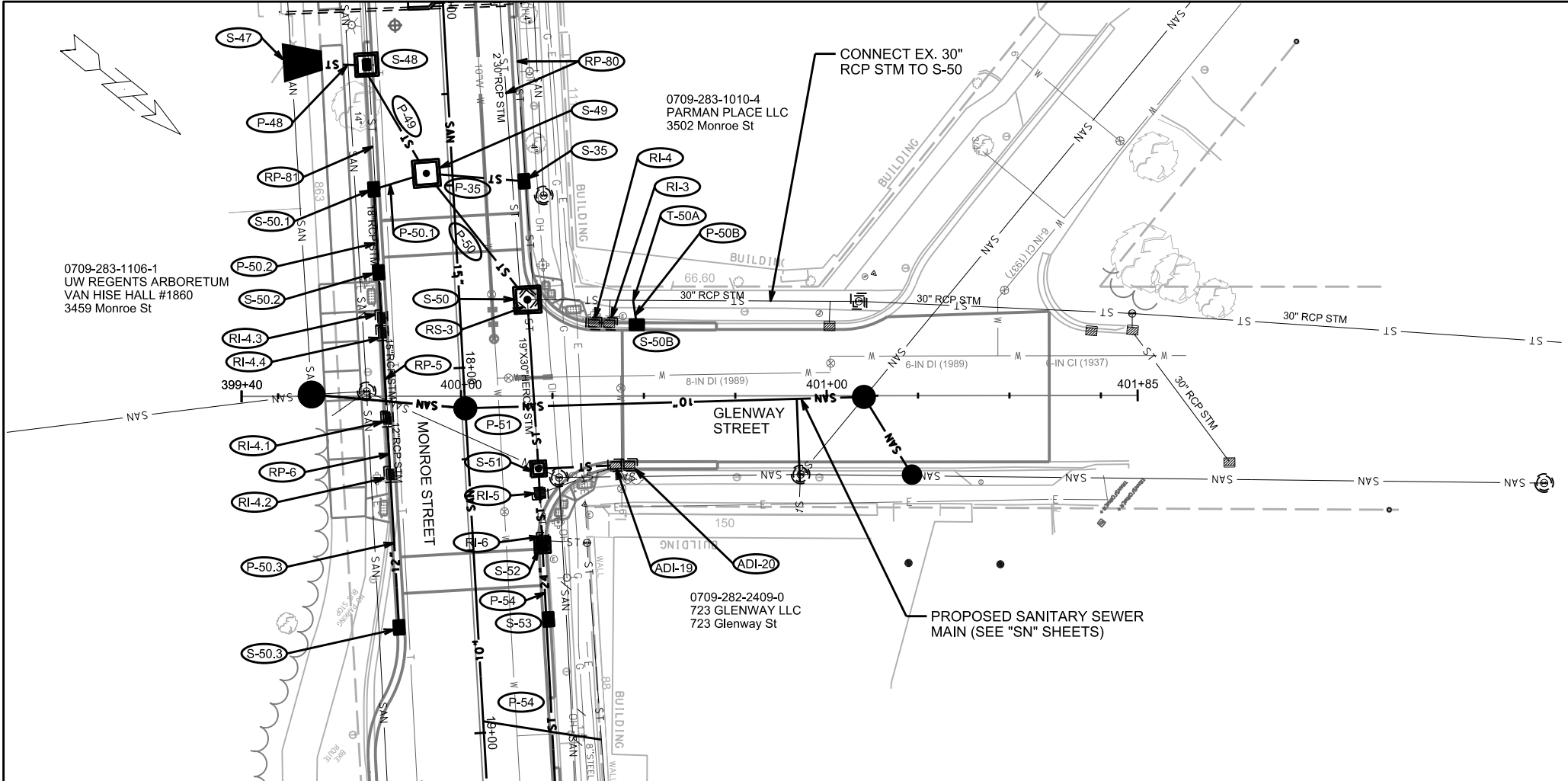
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ST-20

STORM  
PLAN AND PROFILE

SOUTH BREEZE TERRACE CITY OF MADISON

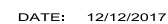
REV.12/12/2017-FBEG













STORM SEWER SCHEDULE

PROPOSED STORM STRUCTURES

STRUC.	STATION	LOCATION	TYPE	TOP OF	E.I.	DEPTH	NOTES
NO.	(OFFSET)			CASTING			
MONROE STREET (NAKOMA ROAD TO WESTERN AVENUE)							
S-000	10+92.53	LT-18.95	3'X3' SAS	870.06	862.98	7.08	FP;w/ R-1550-0054;[1]
T-1	13+00.76	LT-18.55	STORM TAP	-	862.24	-	TAP ADS-2
S-2	12+99.72	RT-22.51	"H" INLET	865.43	862.54	2.89	FP; w/ R-3067-7004-V
S-3	13+20.02	RT-22.49	"H" INLET	865.63	862.63	3.00	LP; w/ R-3067-7004-VB
S-20	14+27.49	LT-20.10	EX.CATCHBASIN	865.18	859.45	5.73	[2]
S-21	14+35.42	RT-20.68	"H" INLET	865.68	862.43	3.25	w/ R-3067-7004-V
S-22	14+57.54	RT-20.38	"H" INLET	865.53	862.53	3.00	LP; w/ R-3067-7004-VB
S-30	16+96.82	RT-4.49	PRECAST BEND	-	858.91	-	[3]
S-31	16+74.23	LT-18.41	PRECAST BEND	-	859.38	-	[3]
S-47	17+14.05	RT-43.61	34"X53" HERCP A	-	858.12	-	w/ AE GATE
S-48	17+15.78	RT-20.78	6'X6' SAS	865.26	858.22	7.04	w/ R-1550-0054
S-49	17+46.37	RT-6.11	6'X6' SAS	864.96	858.36	6.60	w/ R-1550-0054
S-35	17+49.99	LT-20.46	"H" INLET	865.00	862.00	3.00	LP; w/ R-3067-7004-VB
* S-50.1	17+49.95	RT-20.71	"H" INLET	865.00	860.04	4.96	LP; w/ R-3067-7004-VB
S-50.2	17+72.73	RT-20.63	"H" INLET	865.27	861.49	3.78	w/ R-3067-7004-V
S-50.3	18+69.90	RT-20.52	"H" INLET	864.96	861.96	3.00	LP; w/ R-3067-7004-VB
S-50	17+82.40	LT-19.18	6'X6' SAS	864.94	859.20	5.74	w/ R-1550-0054
* T-50A	17+84.14	LT-48.45	STORM TAP	-	861.29	-	TAP EX 30"RCP STM
S-50B	17+90.85	LT-49.07	"H" INLET	864.79	861.54	3.25	LP; w/ R-3067-7004-VB
S-51	18+28.75	LT-20.02	3'X3' SAS	864.99	860.48	4.51	w/ R-1550-0054
T-52A	18+29.03	LT-41.21	STORM TAP	-	861.25	-	TAP EX IN 4059-034
S-52	18+49.69	LT-19.91	3'X3' SAS	865.04	860.67	4.37	w/ R-3067-7004-V; [7]
S-53	18+70.03	LT-20.44	SADDLED INLET	865.04	860.77	4.27	LP; w/ R-3067-7004-VB
S-54	20+67.12	LT-19.04	3'X3' SAS	866.17	861.87	4.30	w/ R-1550-0054
* S-55A	20+71.08	LT-41.47	3'X3' SAS	867.35	862.50	4.85	w/ R-3067-7004-V
S-55B	20+98.09	LT-41.84	"H" INLET	868.59	864.96	3.63	w/ R-3067-7004-V
S-55	21+22.49	LT-20.25	3'X3' SAS	867.21	862.50	4.71	LP; w/ R-3067-7004-VB
S-56A	21+26.64	RT-20.67	"H" INLET	867.23	863.98	3.25	w/ R-3067-7004-V
S-56	23+28.58	LT-20.52	3'X3' SAS	870.87	866.17	4.70	w/ R-3067-7004-V
* S-57	23+50.45	LT-43.55	3'X3' SAS	871.10	866.45	4.65	w/ R-3067-7004-V
S-58	23+82.05	LT-43.25	"H" INLET	871.70	868.45	3.25	w/ R-3067-7004-V
MONROE STREET (CHAPMAN STREET TO GILMORE STREET)							
T-60	29+81.44	RT-27.32	STORM TAP	-	856.45	-	TAP EX.AS 4158-046
T-60A	29+81.44	RT-27.32	STORM TAP	-	856.20	-	TAP EX.AS 4158-046
T-60B	29+81.44	RT-27.32	STORM TAP	-	856.45	-	TAP EX.AS 4158-046
S-61	29+32.97	RT-5.79	3'X3' SAS	862.64	857.14	5.50	w/ R-1550-0054
* S-62A	29+29.85	RT-20.38	"H" INLET	862.70	857.37	5.33	w/ R-3067-7004-V
S-62B	29+30.16	LT-20.70	"H" INLET	862.81	859.56	3.25	w/ R-3067-7004-V
S-62	26+57.39	RT-5.78	3'X3' SAS	869.48	864.28	5.20	w/ R-1550-0054
S-63A	26+55.90	RT-23.00	"H" INLET	869.58	866.58	3.00	w/ R-3067-7004-V
S-63B	26+19.76	RT-23.00	"H" INLET	870.14	867.14	3.00	w/ R-3067-7004-V
S-63	26+52.44	LT-21.93	3'X3' SAS	869.25	864.60	4.65	w/ R-1550-0054
* S-64A	26+24.13	LT-22.99	"H" INLET	870.20	866.77	3.43	w/ R-3067-7004-V
S-64	26+54.51	LT-39.54	3'X3' SAS	869.80	864.80	5.00	FP;LP; w/ R-3067-7004-VB
S-65	26+79.04	LT-43.57	"H" INLET	870.21	867.11	3.10	w/ R-3067-7004-V
S-60B	29+81.60	LT-20.78	3'X3' SAS	861.98	857.20	4.78	FP; w/ R-1550-0054
S-61B	30+04.25	RT-20.48	"H" INLET	861.55	856.55	5.00	w/ R-3067-7004-V
S-61C	30+39.01	RT-20.55	"H" INLET	861.28	856.71	4.57	w/ R-3067-7004-V; [7]
MONROE STREET(BALTZELL TO CRANDALL)							
T-67	35+65.38	RT-50.50	STORM TAP	-	842.60	-	TAP EX.CB 4157-057
T-68.5	35+51.17	RT-39.40	STORM TAP	-	854.52	-	TAP EX.IN 4157-019

SPECIFIC NOTES:

- [1] PAID PER SPECIAL BID ITEM 90068 (3' x 3' SAS MODIFIED)
- [2] PAID PER SPECIAL BID ITEM 90065 (RECONSTRUCT CATCHBASIN TO SAS CASTING)
- \*[3] PAID PER SPECIAL BID ITEM 90066 (8' x 4 'RCB ASTM C-1433 45 DEGREES PRECAST BEND)
- [4] PAID PER SPECIAL BID ITEM 90070 (8' x 4' ASTM-C-1433 BOX CULVERT-INSTALLATION)
- [5] PAID PER SPECIAL BID ITEM 90067 (7' x 7' SAS)
- \*[6] WITH 3 FT SUMP FROM THE INVERT OF THE DISCHARGE PIPE.
- [7] PRIVATE STORM SEWER RECONNECT, TYPE 1
- [8] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 96+88.56 RT 34.90'
- \*[9] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 35+82.04 RT 25.29'
- \*[10] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 41+47.98 RT 23.87'

\* REV.12/12/2017-FBEG

MONROE STREET RECONSTRUCTION 2018	SHEET NO.
PROJECT NO.10251	ST-24
STORM SEWER SCHEDULE	
MONROE STREET	CITY OF MADISON

PROPOSED STORM STRUCTURES(CONTINUED)

STRUC.	STATION	LOCATION	TYPE	TOP OF	E.I.	DEPTH	NOTES
NO.		(OFFSET)		CASTING			
S-68	35+64.88	RT-31.59	PRECAST BEND	-	842.66	-	[3]
S-68.0	35+53.36	RT-20.10	3'X3' SAS	858.17	842.71	15.46	w/ R-1550-0055; [1]
S-68.1	35+30.45	RT-22.50	"H" INLET	858.56	855.31	3.25	w/ R-3067-7004-V
S-68.2	35+20.46	RT-22.49	"H" INLET	858.61	855.36	3.25	w/ R-3067-7004-V
* S-69	35+42.91	RT-9.67	PRECAST BEND	-	842.77	-	[3]
S-72	35+42.91	LT-15.22	3'X3' SAS	858.33	842.87	15.46	w/ R-1550-0055; [1]
S-70	35+42.93	LT-21.84	PRECAST BEND	-	842.89	-	[3]
S-71	35+55.32	LT-34.20	PRECAST BEND	-	842.95	-	[3]
S-73	35+25.01	LT-23.01	3'X3' SAS	858.55	853.75	4.80	LP; w/ R-3067-7004-VB
S-74	32+97.69	LT-20.77	3'X3' SAS	859.60	855.10	4.50	w/ R-3067-7004-V
S-75	32+82.56	LT-37.46	3'X3' SAS	859.65	855.68	3.97	FP; w/ R-1550-0054
S-76	32+77.07	LT-37.73	"H" INLET	859.45	855.94	3.51	LP; w/ R-3067-7004-VB
S-77	32+53.52	LT-37.51	"H" INLET	859.72	856.22	3.50	LP; w/ R-3067-7004-VB
S-77A	32+76.95	LT-46.63	"H" INLET	859.72	856.47	3.25	w/ R-3067-7004-V
S-78	32+32.96	LT-20.59	"H" INLET	859.87	856.62	3.25	w/ R-3067-7004-V
S-78A	32+53.82	LT-47.61	"H" INLET	860.10	856.60	3.50	w/ R-3067-7004-V
S-79	32+29.64	RT-20.08	"H" INLET	859.86	856.86	3.00	w/ R-3067-7004-V
* S-80	35+82.93	RT-26.34	5'X5' SAS	858.16	854.22	3.94	FP; w/ R-1550-0054; [9]
T-81	35+82.29	LT-47.54	STORM TAP	-	854.75	-	TAP EX.AS 4157-058
T-90	36+00.34	RT-26.28	STORM TAP	-	855.30	-	TAP EX.3'X2.5' STM BOX
S-91	36+00.81	RT-20.15	"H" INLET	858.61	855.33	3.28	w/ R-3067-7004-V
S-92	35+99.05	LT-20.59	"H" INLET	858.52	855.52	3.00	w/ R-3067-7004-V
S-100	38+45.45	RT-25.45	5'X5' SAS	859.66	854.66	5.00	FP; w/ R-1550-0054
S-101	38+53.71	LT-40.07	3'X3' SAS	859.41	855.28	4.13	w/ R-3067-7004-V
* S-102	38+76.80	LT-40.85	"H" INLET	859.36	856.25	3.11	w/ R-3067-7004-V; [7]
S-103	38+96.81	LT-20.65	"H" INLET	859.76	856.76	3.00	w/ R-3067-7004-V
MONROE STREET (CRANDALL STREET TO COMMONWEALTH AVENUE)							
* S-110	41+46.71	RT-25.09	5'X5' SAS	860.94	855.68	5.26	FP; w/ R-1550-0054; [10]
* S-111	41+87.20	RT-24.93	5'X5' SAS	861.26	855.87	5.39	FP; w/ R-1550-0054; [7]
S-111A	41+54.02	LT-44.36	3'X3' SAS	861.30	857.17	4.13	FP; LP; w/ R-3067-7004-VB; [7]
S-111B	41+77.03	LT-44.27	"H" INLET	861.18	858.00	3.18	LP; w/ R-3067-7004-VB; [7]
S-112	42+07.47	LT-20.49	3'X3' SAS	861.38	856.53	4.85	LP; w/ R-3067-7004-VB
* S-113	43+48.04	LT-20.50	3'X3' SAS	862.58	857.83	4.75	w/ R-3067-7004-V; [7]
* S-114	44+72.95	LT-20.36	3'X3' SAS	863.41	858.81	4.60	FP; w/ R-1550-0054
S-115	45+02.73	LT-22.50	"H" INLET	864.25	859.28	4.97	w/ R-3067-7004-V
T-115A	44+82.80	LT-42.37	STORM TAP	-	859.35	-	TAP EX IN 4257-007
* S-116	45+71.51	LT-20.50	"H" INLET	865.53	859.61	5.92	w/ R-3067-7004-V; [7]
S-117	46+38.51	LT-20.50	"H" INLET	866.91	861.91	5.00	w/ R-3067-7004-V; [7]
S-118	46+99.92	LT-20.50	"H" INLET	868.23	864.23	4.00	w/ R-3067-7004-V; [7]
S-120	47+33.11	RT-26.80	5'X5' SAS	869.04	862.96	6.08	FP; w/ R-1550-0054
S-121	47+64.62	LT-37.98	5'X5' SAS	869.41	863.70	5.71	FP; w/ R-1550-0055
S-122	47+74.84	LT-38.71	"H" INLET	869.88	865.88	4.00	LP; w/ R-3067-7004-VB
* S-122A	47+29.33	LT-33.84	"H" INLET	868.82	865.07	3.75	w/ R-3067-7004-V
S-123	47+98.28	LT-20.85	"H" INLET	870.32	866.32	4.00	w/ R-3067-7004-V
T-300	42+06.41	RT-25.35	STORM TAP	-	857.15	-	TAP EX.3' X 2.5' STM BOX
S-301	42+07.06	RT-20.51	"H" INLET	861.38	857.46	3.92	LP; w/ R-3067-7004-VB
T-310	44+75.31	RT-26.92	STORM TAP	-	858.88	-	TAP EX.3' X 2.5' STM BOX
S-311	44+75.39	RT-22.28	"H" INLET	863.76	859.06	4.70	w/ R-3067-7004-V

STANDARD NOTES:

- ABBREVIATIONS: AE = APRON ENDWALL; RCP = REINFORCED CONCRETE PIPE; HERCP = HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE; DNA = DOES NOT APPLY; SAS = SEWER ACCESS STRUCTURE; LP = LOW POINT INLET STRUCTURE; FP = FIELD POURED STRUCTURE; TR = TOP OF CONCRETE ROOF; NCM = NO CROWN MATCH FOR PIPES
- APPROXIMATE DISCHARGE E.I. GIVEN, ADJUST E.I. AND PIPE SLOPE IN THE FIELD.
- TOP OF CASTING GRADE GIVEN IS THE TOP OF CURB FOR INLET STRUCTURES AND THE FLOWLINE OF THE CLOSED CASTING FOR SAS's.
- TOP OF CONCRETE ROOF (TR) IS 1.25' BELOW TOP OF CASTING UNLESS OTHERWISE NOTED.
- ALL REINFORCED CONCRETE PIPES TO BE CLASS III UNLESS OTHERWISE NOTED.
- SURVEYOR TO CONFIRM THAT ALL INLET STATION / OFFSETS LINE UP WITH PROPOSED CURB AND GUTTER.
- ALL STRUCTURES CALLED OUT AS FIELD POURED SHALL BE FIELD POURED. ALL OTHER STRUCTURES (NOT INDICATED AS FIELD POURED) SHALL BE SUBMITTED TO CITY ENGINEERING FOR APPROVAL IF PRECAST STRUCTURES ARE PREFERRED. CONTACT FADI EL MUSA OF CITY ENGINEERING AT (608) 243-5214 FOR PRECAST APPROVALS, OR FAX SHOP DRAWINGS TO (608) 264-9275, OR EMAIL SHOP DRAWINGS TO FELMUSAGONZALEZ@CITYOFMADISON.COM

STORM SEWER SCHEDULE

\* REV.12/12/2017-FBEG

MONROE STREET RECONSTRUCTION 2018	SHEET NO.
PROJECT NO.10251	ST-25
STORM SEWER SCHEDULE	
MONROE STREET	CITY OF MADISON

PROPOSED STORM STRUCTURES (CONTINUED)

STRUC. NO.	STATION	LOCATION (OFFSET)	TYPE	TOP OF CASTING	E.I.	DEPTH	NOTES
MONROE STREET (COMMONWEALTH AVENUE TO LINCOLN STREET)							
* T-150	48+60.08	RT-26.76	STORM TAP	-	862.47	-	TAP EX. AS 4256-011
S-151	49+16.54	RT-14.15	5'X5' SAS	872.66	865.86	6.80	w/ R-1550-0054
S-152A	49+20.81	RT-20.50	"H" INLET	873.02	869.24	3.78	FP; w/ R-3067-7004-V
S-152B	49+22.99	LT-20.89	"H" INLET	873.14	869.89	3.25	w/ R-3067-7004-V
* S-152	51+68.87	RT-13.23	5'X5' SAS	884.04	877.84	6.20	FP;w/ R-1550-0054
S-153A	51+92.70	LT-23.73	4'X4' SAS	884.78	879.94	4.84	FP;w/ R-1550-0054
S-153B	52+33.18	LT-22.49	"H" INLET	886.63	883.13	3.50	w/ R-3067-7004-V
S-153C	52+43.18	LT-22.49	"H" INLET	887.16	883.66	3.50	w/ R-3067-7004-V
S-153	53+29.62	RT-14.39	5'X5' SAS	889.88	883.68	6.20	w/ R-1550-0054
S-154A	53+31.55	RT-20.54	"H" INLET	890.20	886.20	4.00	w/ R-3067-7004-V
S-154	54+67.66	RT-14.09	5'X5' SAS	894.50	888.30	6.20	w/ R-1550-0054
S-155A	54+69.47	RT-20.30	"H" INLET	894.80	890.95	3.85	w/ R-3067-7004-V
S-155B	54+73.10	LT-20.35	"H" INLET	894.95	891.45	3.50	w/ R-3067-7004-V
S-155	57+13.60	RT-14.56	5'X5' SAS	902.66	896.46	6.20	w/ R-1550-0054
S-156A	57+16.57	RT-21.06	"H" INLET	903.01	899.16	3.85	w/ R-3067-7004-V
S-156B	57+22.44	LT-20.07	"H" INLET	903.25	899.50	3.75	w/ R-3067-7004-V
S-156	58+78.17	RT-14.60	5'X5' SAS	907.88	901.68	6.20	w/ R-1550-0054
S-157A	58+81.03	RT-20.58	"H" INLET	908.25	904.25	4.00	w/ R-3067-7004-V
S-157B	58+84.42	LT-20.64	"H" INLET	908.29	904.79	3.50	w/ R-3067-7004-V
* S-157	60+54.50	RT-13.82	5'X5' SAS	912.40	905.03	7.37	FP;w/ R-1550-0054
S-158A	60+64.24	LT-20.50	"H" INLET	912.91	908.91	4.00	w/ R-3067-7004-V
S-158	61+48.10	RT-14.19	5'X5' SAS	912.77	905.48	7.29	w/ R-1550-0054
* S-159A	61+49.82	RT-20.50	"H" INLET	912.92	908.27	4.65	LP; w/ R-3067-7004-VB
S-158B	61+50.19	LT-20.50	"H" INLET	913.97	910.47	3.50	LP; w/ R-3067-7004-VB
S-159	62+98.09	RT-14.20	5'X5' SAS	913.17	906.21	6.96	w/ R-1550-0054
* S-160A	62+99.91	RT-20.50	"H" INLET	913.35	909.77	3.58	LP; w/ R-3067-7004-VB; [6]
S-160B	63+00.15	LT-20.50	"H" INLET	914.49	910.99	3.50	LP; w/ R-3067-7004-VB
S-160	64+58.73	RT-13.85	5'X5' SAS	913.37	906.99	6.38	w/ R-1550-0054
S-161A	64+59.87	RT-20.51	"H" INLET	913.56	909.81	3.75	LP; w/ R-3067-7004-VB
S-161B	64+60.16	LT-20.51	"H" INLET	914.61	911.11	3.50	LP; w/ R-3067-7004-VB
S-161	66+10.48	RT-14.15	5'X5' SAS	913.53	907.73	5.80	w/ R-1550-0054
S-162A	66+11.86	RT-20.50	"H" INLET	913.73	910.48	3.25	LP; w/ R-3067-7004-VB
S-162B	66+12.15	LT-20.49	"H" INLET	914.78	911.28	3.50	LP; w/ R-3067-7004-VB
S-162	67+59.31	RT-4.82	3'X3' SAS	914.15	909.53	4.62	w/ R-1550-0054
S-163A	67+69.86	RT-20.50	"H" INLET	913.99	910.89	3.10	LP; w/ R-3067-7004-VB
S-163	67+70.16	LT-20.50	3'X3' SAS	915.04	909.65	5.39	LP; w/ R-3067-7004-VB
S-164	69+00.00	LT-20.50	3'X3' SAS	915.27	910.28	4.99	LP; w/ R-3067-7004-VB
S-165	69+19.78	LT-21.41	3'X3' SAS	915.45	910.62	4.83	w/ R-1550-0054
T-190	69+27.38	LT-33.41	STORM TAP	-	911.98	-	TAP EX. AS 4355-047
S-191	69+49.28	LT-34.07	"H" INLET	915.40	912.30	3.10	LP; w/ R-3067-7004-VB
S-166	69+92.19	LT-20.50	3'X3' SAS	915.37	910.97	4.40	LP; w/ R-3067-7004-VB
S-167A	70+26.60	RT-20.50	"H" INLET	914.72	911.72	3.00	w/ R-3067-7004-V
S-167	71+67.58	LT-20.50	3'X3' SAS	916.85	912.26	4.59	w/ R-3067-7004-V

SPECIFIC NOTES:

- [1] PAID PER SPECIAL BID ITEM 90068 (3' x 3' SAS MODIFIED)
- [2] PAID PER SPECIAL BID ITEM 90065 (RECONSTRUCT CATCHBASIN TO SAS CASTING)
- \*[3] PAID PER SPECIAL BID ITEM 90066 (8' x 4 'RCB ASTM C-1433 45 DEGREES PRECAST BEND)**
- [4] PAID PER SPECIAL BID ITEM 90070 (8' x 4' ASTM-C-1433 BOX CULVERT-INSTALLATION)
- [5] PAID PER SPECIAL BID ITEM 90067 (7' x 7' SAS)
- \*[6] WITH 3 FT SUMP FROM THE INVERT OF THE DISCHARGE PIPE.**
- [7] PRIVATE STORM SEWER RECONNECT, TYPE 1
- [8] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 96+88.56 RT 34.90'
- \*[9] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 35+82.04 RT 25.29'**
- \*[10] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 41+47.98 RT 23.87'**
- \*[11] INSTALL PIPE PLUG, INCIDENTAL TO PIPE REMOVAL**

PROPOSED STORM STRUCTURES (CONTINUED)

STRUC. NO.	STATION	LOCATION (OFFSET)	TYPE	TOP OF CASTING	E.I.	DEPTH	NOTES
MONROE STREET (COMMONWEALTH AVENUE TO LINCOLN STREET)							
S-168A	71+75.13	RT-20.50	"H" INLET	915.96	912.96	3.00	w/ R-3067-7004-V
S-168	73+66.46	LT-20.50	3'X3' SAS	918.65	914.05	4.60	w/ R-3067-7004-V
* S-169	73+93.16	RT-20.49	"H" INLET	917.53	914.53	3.00	FP;w/ R-3067-7004-V
S-170	74+22.30	RT-20.50	"H" INLET	917.73	914.73	3.00	w/ R-3067-7004-V
S-180	70+17.97	RT-59.57	3'X3' SAS	914.21	909.75	4.46	FP; w/ R-1550-0054
MONROE STREET (PROSPECT AVENUE TO OAKLAND AVENUE)							
* S-200	96+88.61	RT-33.46	7'X7' SAS	866.95	860.09	6.86	FP; w/ R-1550-0054 ;[7] ;[8]
S-201	96+59.67	RT-21.50	5'X5' SAS	868.16	860.35	7.81	FP; w/ R-3067-7004-V
* S-201A	97+20.10	RT-38.56	"H" INLET	866.73	863.73	3.00	FP;w/ R-3067-7004-V
* S-201B	97+41.45	RT-21.50	"H" INLET	867.71	864.46	3.25	FP;w/ R-3067-7004-V
S-201C	97+52.83	RT-21.50	"H" INLET	867.76	864.51	3.25	w/ R-3067-7004-V
* S-202	96+52.58	RT-21.44	SADDLED INLET	868.28	860.53	7.75	FP; w/ R-3067-7004-V
S-203	94+56.54	RT-21.50	5'X5' SAS	874.92	868.02	6.90	w/ R-3067-7004-V
S-204	94+35.98	LT-22.50	5'X5' SAS	876.47	869.57	6.90	w/ R-3067-7004-V
S-204A	94.31.12	RT-21.50	"H" INLET	875.83	872.33	3.50	w/ R-3067-7004-V
S-205A	94+87.42	LT-22.50	"H" INLET	874.69	871.06	3.63	w/ R-3067-7004-V; [7]
S-205	91+71.77	LT-22.51	5'X5' SAS	886.10	879.20	6.90	w/ R-3067-7004-V
S-206A	91+61.16	RT-21.49	"H" INLET	885.82	880.00	5.82	w/ R-3067-7004-V; [7]
S-206	90+82.22	LT-22.50	5'X5' SAS	889.24	882.34	6.90	w/ R-3067-7004-V
S-207A	90+59.43	RT-21.50	"H" INLET	889.89	885.35	4.54	w/ R-3067-7004-V; [7]
S-207B	90+36.64	RT-21.50	"H" INLET	890.66	886.16	4.50	w/ R-3067-7004-V; [7]
S-207	89+24.42	LT-21.82	5'X5' SAS	894.11	887.26	6.85	FP; w/ R-1550-0054
S-208A	89+17.18	LT-36.98	3'X3' SAS	894.85	887.95	6.90	FP; LP; w/ R-3067-7004-VB
S-208B	89+39.79	LT-53.12	COLLAR	-	888.59	-	-
S-208	88+92.07	LT-22.52	5'X5' SAS	895.53	887.46	8.07	w/ R-3067-7004-V; [7]
S-209A	88+71.79	RT-21.48	"H" INLET	895.90	892.65	3.25	w/ R-3067-7004-V
S-209	86+84.16	LT-22.49	5'X5' SAS	901.60	888.48	13.12	w/ R-3067-7004-V; [7]
S-210A	86+78.90	RT-21.50	"H" INLET	901.55	897.55	4.00	w/ R-3067-7004-V
S-210B	86+01.31	RT-21.50	"H" INLET	903.81	900.56	3.25	w/ R-3067-7004-V
* S-210	86+26.85	LT-37.39	5'X5' SAS	902.83	888.75	14.08	FP;w/ R-3067-7004-V
T-211A	85+73.55	LT-92.94	STORM TAP	-	889.61	-	TAP EX. AS 4453-054
S-211	85+39.52	LT-22.50	3'X3' SAS	905.56	900.76	4.80	w/ R-3067-7004-V
S-212	84+81.79	LT-22.50	3'X3' SAS	907.69	901.31	6.38	w/ R-3067-7004-V
* S-213A	84+78.31	RT-21.51	"H" INLET	907.77	904.52	3.25	w/ R-3067-7004-V; [7]
S-213	81+57.07	LT-21.50	3'X3' SAS	917.24	912.44	4.80	LP; w/ R-3067-7004-VB
S-214A	81+56.96	RT-21.51	"H" INLET	917.14	913.89	3.25	LP; w/ R-3067-7004-VB
S-214	80+23.30	LT-21.50	"H" INLET	920.23	915.73	4.50	w/ R-3067-7004-V
T-215	80+22.54	RT-21.02	STORM TAP	-	916.04	-	TAP EX. IN 4454-083
* S-250	96+88.48	LT-26.61	3'X3' SAS	869.45	862.35	7.10	FP;w/ R-1550-0054; [1]
S-251	96+69.43	LT-29.50	"H" INLET	870.79	866.79	4.00	w/ R-3067-7004-V
S-251A	97+27.63	LT-29.50	"H" INLET	869.55	866.05	3.50	LP; w/ R-3067-7004-VB
S-252	96+05.82	LT-29.50	"H" INLET	872.19	868.69	3.50	w/ R-3067-7004-V
SOUTH BREESE TERRACE							
* S-253	200+82.79	RT-20.28	"H" INLET	873.09	869.59	3.50	w/ R-3067-7004-V
* S-254	200+81.29	LT-18.31	"H" INLET	873.69	870.19	3.50	LP; w/ R-3067-7004-VB

STANDARD NOTES:

- ABBREVIATIONS: AE = APRON ENDWALL; RCP = REINFORCED CONCRETE PIPE; HERCP = HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE; DNA = DOES NOT APPLY; SAS = SEWER ACCESS STRUCTURE; LP = LOW POINT INLET STRUCTURE; FP = FIELD POURED STRUCTURE; TR = TOP OF CONCRETE ROOF; NCM = NO CROWN MATCH FOR PIPES
- APPROXIMATE DISCHARGE E.I. GIVEN, ADJUST E.I. AND PIPE SLOPE IN THE FIELD.
- TOP OF CASTING GRADE GIVEN IS THE TOP OF CURB FOR INLET STRUCTURES AND THE FLOWLINE OF THE CLOSED CASTING FOR SAS's.
- TOP OF CONCRETE ROOF (TR) IS 1.25' BELOW TOP OF CASTING UNLESS OTHERWISE NOTED.
- ALL REINFORCED CONCRETE PIPES TO BE CLASS III UNLESS OTHERWISE NOTED.
- SURVEYOR TO CONFIRM THAT ALL INLET STATION / OFFSETS LINE UP WITH PROPOSED CURB AND GUTTER.
- ALL STRUCTURES CALLED OUT AS FIELD POURED SHALL BE FIELD POURED. ALL OTHER STRUCTURES (NOT INDICATED AS FIELD POURED) SHALL BE SUBMITTED TO CITY ENGINEERING FOR APPROVAL IF PRECAST STRUCTURES ARE PREFERRED. CONTACT FADI EL MUSA OF CITY ENGINEERING AT (608) 243-5214 FOR PRECAST APPROVALS, OR FAX SHOP DRAWINGS TO (608) 264-9275, OR EMAIL SHOP DRAWINGS TO FELMUSAGONZALEZ@CITYOFMADISON.COM

STORM SEWER SCHEDULE

\* REV.12/12/2017-FBEG

MONROE STREET RECONSTRUCTION 2018	SHEET NO.
PROJECT NO.10251	ST-26
STORM SEWER SCHEDULE	
MONROE STREET	CITY OF MADISON

PROPOSED STORM STRUCTURES (CONTINUED)

STRUC. NO.	STATION	LOCATION (OFFSET)	TYPE	TOP OF CASTING	E.I.	DEPTH	NOTES
NAKOMA ROAD							
* T-400	399+29.83	RT-48.85	STORM TAP	-	860.52	-	TAP EX. IN 4060-010
* S-401	399+44.41	RT-23.21	4'X4' SAS	865.23	860.65	4.58	FP:w/ R-1550-0054
* T-402	399+33.81	LT-19.15	STORM TAP	-	860.85	-	TAP EX. AS (NO ID)

PROPOSED STORM PIPES

PIPE NO.	FROM (DNSTM)	TO (UPSTM)	DISCH. E.I.	INLET E.I.	PLAN (PAY) LGTH (FT)	PIPE LGTH (FT)	SLOPE (%)	PIPE SIZE	TYPE	NOTES
MONROE STREET (NAKOMA ROAD TO WESTERN AVENUE)										
P-2	T-1	S-2	862.24	862.54	41.0	36.5	0.82%	12"	RCP	-
P-3	S-2	S-3	862.54	862.63	20.5	17.5	0.51%	12"	RCP	-
P-21	S-20	S-21	862.00	862.43	41.5	36.5	1.18%	12"	RCP	-
P-22	S-21	S-22	862.43	862.53	22.0	19.0	0.53%	12"	RCP	-
* P-31	S-30	S-31	858.91	859.38	32.0	32.0	1.47%	8' X 4' BOX	RCP	[7]
P-48	S-47	S-48	858.12	858.22	20.5	20.5	0.49%	34" X 53"	HERCP	-
P-49	S-48	S-49	858.22	858.36	31.5	28.5	0.49%	34" X 53"	HERCP	-
P-35	S-49	S-35	861.85	862.00	27.0	23.0	0.65%	12"	RCP	-
* P-50.1	S-49	S-50.1	859.98	860.04	15.0	11.0	0.55%	12"	RCP	-
P-50.2	S-50.1	S-50.2	860.89	861.49	23.0	20.0	3.00%	12"	RCP	-
P-50.3	S-50.2	S-50.3	861.49	861.96	97.0	94.0	0.50%	12"	RCP	-
* P-50	S-49	S-50	858.36	859.20	44.5	37.0	2.27%	34" X 53"	HERCP	-
* P-50B	T-50A	S-50B	861.29	861.54	7.0	6.0	4.17%	12"	RCP	-
P-51	S-50	S-51	860.20	860.48	46.5	41.5	0.67%	24"	RCP	-
P-52A	S-51	T-52A	861.00	861.25	21.0	17.5	1.43%	12"	RCP	-
P-52	S-51	S-52	860.48	860.67	21.0	17.5	1.09%	24"	RCP	-
P-54	S-52	S-54	860.67	861.87	217.5	214.5	0.56%	24"	RCP	-
P-55A	S-54	S-55A	862.37	862.50	23.0	19.5	0.67%	18"	RCP	-
P-55B	S-55A	S-55B	863.50	864.96	27.0	24.5	5.96%	12"	RCP	-
* P-55C	S-55A	20+71.18 LT 49.94'	862.37	862.44	9.5	7.0	1.00%	18"	RCP	-
P-55	S-54	S-55	861.87	862.50	55.5	52.0	1.21%	24"	RCP	-
P-56A	S-55	S-56A	863.70	863.98	41.0	38.5	0.73%	12"	RCP	-
P-56	S-55	S-56	863.00	866.17	206.0	203.0	1.56%	18"	RCP	-
P-57	S-56	S-57	866.17	866.45	32.0	27.5	1.02%	18"	RCP	-
P-58	S-57	S-58	867.45	868.45	31.5	29.0	3.45%	12"	RCP	-
* P-58A	S-57	23+50.63 LT 52.05'	866.45	866.52	9.5	7.0	1.00%	18"	RCP	-
MONROE STREET (CHAPMAN STREET TO GILMORE STREET)										
P-61	T-60	S-61	856.45	857.14	53.0	48.0	1.44%	21"	RCP	-
P-62	S-61	S-62	857.14	864.28	275.5	272.5	2.62%	21"	RCP	-
* P-62A	S-61	S-62A	857.30	857.37	15.0	12.5	0.56%	12"	RCP	-
P-62B	S-61	S-62B	858.89	859.56	26.5	24.0	2.79%	12"	RCP	-
P-63	S-62	S-63	864.28	864.60	28.0	25.0	1.28%	21"	RCP	-
* P-63A	S-62	S-63A	866.28	866.58	17.5	15.0	2.00%	12"	RCP	-
P-63B	S-63A	S-63B	866.58	867.14	36.0	33.0	1.70%	12"	RCP	-
P-64A	S-63	S-64A	865.75	866.77	28.5	25.5	4.00%	12"	RCP	-
P-64	S-63	S-64	864.60	864.80	17.5	14.5	1.38%	21"	RCP	-
P-65	S-64	S-65	866.55	867.11	25.0	22.5	2.49%	12"	RCP	-
P-65A	S-64	26+54.95 LT 49.08	867.82	867.86	8.0	6.5	0.62%	14" X 23"	HERCP	-

SPECIFIC NOTES:

- [1] PAID PER SPECIAL BID ITEM 90068 (3' x 3' SAS MODIFIED)
- [2] PAID PER SPECIAL BID ITEM 90065 (RECONSTRUCT CATCHBASIN TO SAS CASTING)
- \*[3] PAID PER SPECIAL BID ITEM 90066 (8' x 4 'RCB ASTM C-1433 45 DEGREES PRECAST BEND)
- [4] PAID PER SPECIAL BID ITEM 90070 (8' x 4' ASTM-C-1433 BOX CULVERT-INSTALLATION)
- [5] PAID PER SPECIAL BID ITEM 90067 (7' x 7' SAS)
- \*[6] WITH 3 FT SUMP FROM THE INVERT OF THE DISCHARGE PIPE.
- [7] PRIVATE STORM SEWER RECONNECT, TYPE 1
- [8] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 96+88.56 RT 34.90'
- \*[9] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 35+82.04 RT 25.29'
- \*[10] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 41+47.98 RT 23.87'
- \*[11] INSTALL PIPE PLUG, INCIDENTAL TO PIPE REMOVAL

PROPOSED STORM PIPES (CONTINUED)

PIPE NO.	FROM (DNSTM)	TO (UPSTM)	DISCH. E.I.	INLET E.I.	PLAN (PAY) LGTH (FT)	PIPE LGTH (FT)	SLOPE (%)	PIPE SIZE	TYPE	NOTES
P-60B	T-60A	S-60B	856.20	857.20	48.0	44.0	2.27%	24"	RCP	-
P-61B	T-60B	S-61B	856.45	856.55	24.0	20.0	0.50%	12"	RCP	-
P-61C	S-61B	S-61C	856.55	856.71	35.0	32.0	0.50%	12"	RCP	-
MONROE STREET(BALTZELL TO CRANDALL)										
P-68	T-67	S-68	842.60	842.66	19.0	15.5	0.39%	8' X 4' BOX	RCP	[4]
P-69	S-68	S-69	842.66	842.77	31.0	31.0	0.35%	8' X 4' BOX	RCP	[4]
P-70	S-69	S-70	842.77	842.89	31.5	31.5	0.38%	8' X 4' BOX	RCP	[4]
P-71	S-70	S-71	842.89	842.95	17.5	17.5	0.34%	8' X 4' BOX	RCP	[4]
P-68.1	S-68.0	S-68.1	854.17	855.31	23.0	20.0	5.70%	12"	RCP	-
P-68.2	S-68.1	S-68.2	855.31	855.36	10.0	7.0	0.71%	12"	RCP	-
P-68.5	S-68.0	T-68.5	854.17	854.52	19.5	16.5	2.12%	12"	RCP	-
P-73	S-72	S-73	853.59	853.75	19.5	16.0	1.00%	18"	RCP	-
P-74	S-73	S-74	853.75	855.10	226.0	224.5	0.60%	18"	RCP	-
P-75	S-74	S-75	855.10	855.68	21.5	19.5	2.97%	18"	RCP	-
P-76	S-75	S-76	855.93	855.94	5.5	3.0	0.33%	15"	RCP	-
P-77	S-76	S-77	855.94	856.22	22.5	21.5	1.30%	15"	RCP	-
P-77A	S-76	S-77A	856.19	856.47	7.5	6.0	4.67%	12"	RCP	-
P-78	S-77	S-78	856.47	856.62	25.5	24.0	0.62%	12"	RCP	-
P-78A	S-77	S-78A	856.47	856.60	7.0	7.0	1.86%	12"	RCP	-
P-79	S-78	S-79	856.62	856.86	41.0	39.0	0.62%	12"	RCP	-
P-81	S-80	T-81	854.32	854.75	74.0	69.5	0.62%	29"X45"	HERCP	-
P-91	T-90	S-91	855.30	855.33	6.0	5.0	0.60%	12"	RCP	-
P-92	S-91	S-92	855.33	855.52	41.0	39.0	0.49%	12"	RCP	-
P-101	S-100	S-101	854.96	855.28	66.0	62.0	0.52%	18"	RCP	-
P-102	S-101	S-102	855.75	856.25	23.0	20.5	2.44%	12"	RCP	-
P-103	S-102	S-103	856.25	856.76	28.5	25.5	2.00%	12"	RCP	-
MONROE STREET (CRANDALL STREET TO COMMONWEALTH AVENUE)										
P-111	S-110	S-111	855.68	855.87	41.0	36.0	0.53%	29"X45"	HERCP	-
P-111A	S-110	S-111A	855.78	857.17	70.0	66.0	2.11%	21"	RCP	-
P-111B	S-111A	S-111B	857.67	858.00	23.0	20.5	1.61%	12"	RCP	-
P-112	S-111	S-112	855.96	856.53	49.5	45.0	1.27%	21"	RCP	-
P-113	S-112	S-113	856.53	857.83	140.5	137.5	0.95%	21"	RCP	-
* P-114	S-113	S-114	857.83	858.81	125.0	122.0	0.80%	21"	RCP	-
P-115	S-114	S-115	859.15	859.28	30.0	27.0	0.48%	12"	RCP	-
P-115A	S-114	T-115A	858.81	859.35	21.0	21.0	2.57%	21"	RCP	-
P-116	S-115	S-116	859.28	859.61	69.0	66.0	0.50%	12"	RCP	-
P-117	S-116	S-117	859.61	861.91	67.0	64.0	3.59%	12"	RCP	-
P-118	S-117	S-118	861.91	864.23	61.5	58.5	3.97%	12"	RCP	-
P-121	S-120	S-121	862.96	863.70	72.0	66.5	1.11%	29"X45"	HERCP	-
P-122	S-121	S-122	865.73	865.88	10.5	6.0	2.50%	12"	RCP	-
* P-122A	S-118	S-122A	864.23	865.07	32.5	29.0	2.90%	12"	RCP	-
P-123	S-122	S-123	865.88	866.32	29.5	26.5	1.66%	12"	RCP	-
P-301	T-300	S-301	857.15	857.46	5.0	4.0	7.75%	12"	RCP	-
P-311	T-310	S-311	858.88	859.06	4.5	3.5	5.14%	12"	RCP	-

STANDARD NOTES:

- ABBREVIATIONS: AE = APRON ENDWALL; RCP = REINFORCED CONCRETE PIPE; HERCP = HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE; DNA = DOES NOT APPLY; SAS = SEWER ACCESS STRUCTURE; LP = LOW POINT INLET STRUCTURE; FP = FIELD POURED STRUCTURE; TR = TOP OF CONCRETE ROOF; NCM = NO CROWN MATCH FOR PIPES
- APPROXIMATE DISCHARGE E.I. GIVEN, ADJUST E.I. AND PIPE SLOPE IN THE FIELD.
- TOP OF CASTING GRADE GIVEN IS THE TOP OF CURB FOR INLET STRUCTURES AND THE FLOWLINE OF THE CLOSED CASTING FOR SAS's.
- TOP OF CONCRETE ROOF (TR) IS 1.25' BELOW TOP OF CASTING UNLESS OTHERWISE NOTED.
- ALL REINFORCED CONCRETE PIPES TO BE CLASS III UNLESS OTHERWISE NOTED.
- SURVEYOR TO CONFIRM THAT ALL INLET STATION / OFFSETS LINE UP WITH PROPOSED CURB AND GUTTER.
- ALL STRUCTURES CALLED OUT AS FIELD POURED SHALL BE FIELD POURED. ALL OTHER STRUCTURES (NOT INDICATED AS FIELD POURED) SHALL BE SUBMITTED TO CITY ENGINEERING FOR APPROVAL IF PRECAST STRUCTURES ARE PREFERRED. CONTACT FADI EL MUSA OF CITY ENGINEERING AT (608) 243-5214 FOR PRECAST APPROVALS, OR FAX SHOP DRAWINGS TO (608) 264-9275, OR EMAIL SHOP DRAWINGS TO FELMUSAGONZALEZ@CITYOFMADISON.COM

STORM SEWER SCHEDULE

\* REV.12/12/2017-FBEG

MONROE STREET RECONSTRUCTION 2018	SHEET NO.
PROJECT NO.10251	ST-27
STORM SEWER SCHEDULE	
MONROE STREET	CITY OF MADISON

PROPOSED STORM PIPES (CONTINUED)

PIPE NO.	FROM (DNSTM)	TO (UPSTM)	DISCH. E.I.	INLET E.I.	PLAN (PAY) LGTH (FT)	PIPE LGTH (FT)	SLOPE (%)	PIPE SIZE	TYPE	NOTES
MONROE STREET (COMMONWEALTH AVENUE TO LINCOLN STREET)										
* P-151	T-150	S-151	862.47	865.86	58.0	51.5	6.58%	36"	RCP	-
P-152A	S-151	S-152A	869.24	869.50	4.0	4.0	6.50%	8"	C900	-
P-152B	S-151	S-152B	868.96	869.89	35.5	32.5	2.86%	12"	RCP	-
P-152	S-151	S-152	865.86	877.84	252.0	248.0	4.83%	36"	RCP	-
P-153A	S-152	S-153A	878.84	879.94	44.0	39.0	2.82%	24"	RCP	-
P-153B	S-153A	S-153B	881.58	883.13	40.5	37.0	4.19%	12"	RCP	-
P-153C	S-153B	S-153C	883.13	883.66	8.5	7.0	7.57%	12"	RCP	-
P-153	S-152	S-153	877.84	883.68	161.0	157.0	3.72%	36"	RCP	-
P-154A	S-153	S-154A	886.08	886.20	6.5	3.5	3.43%	12"	RCP	-
* P-154	S-153	S-154	883.68	888.30	138.0	134.0	3.45%	36"	RCP	-
P-155A	S-154	S-155A	890.70	890.95	6.5	3.5	7.14%	12"	RCP	-
P-155B	S-154	S-155B	890.70	891.45	35.0	32.0	2.34%	12"	RCP	-
P-155	S-154	S-155	888.30	896.46	246.0	242.0	3.37%	36"	RCP	-
P-156A	S-155	S-156A	898.86	899.16	7.0	4.0	7.50%	12"	RCP	-
P-156B	S-155	S-156B	898.86	899.50	35.5	32.5	1.97%	12"	RCP	-
P-156	S-155	S-156	896.46	901.68	164.5	160.5	3.25%	36"	RCP	-
P-157A	S-156	S-157A	904.08	904.25	6.5	3.5	4.86%	12"	RCP	-
P-157B	S-156	S-157B	904.08	904.79	36.0	32.5	2.18%	12"	RCP	-
P-157	S-156	S-157	901.68	905.03	176.5	172.5	1.94%	36"	RCP	-
P-158A	S-157	S-158A	908.40	908.91	35.5	32.5	1.57%	15"	RCP	-
* P-158B	S-158A	S-158B	908.91	910.47	86.0	83.0	1.88%	12"	RCP	-
P-158	S-157	S-158	905.03	905.48	93.5	89.5	0.50%	36"	RCP	-
P-159A	S-158	S-159A	908.25	908.27	6.5	3.5	0.57%	12"	RCP	-
* P-159	S-158	S-159	905.48	906.21	150.0	146.0	0.50%	36"	RCP	-
P-160A	S-159	S-160A	910.04	910.27	6.5	3.5	6.57%	12"	RCP	-
P-160B	S-159	S-160B	909.37	910.99	35.0	32.0	5.06%	12"	RCP	-
P-160	S-159	S-160	906.21	906.99	160.5	156.5	0.50%	36"	RCP	-
P-161A	S-160	S-161A	909.57	909.81	7.0	3.5	6.86%	12"	RCP	-
P-161B	S-160	S-161B	909.57	911.11	34.5	31.5	4.89%	12"	RCP	-
P-161	S-160	S-161	906.99	907.73	152.0	148.0	0.50%	36"	RCP	-
P-162A	S-161	S-162A	910.23	910.48	6.5	3.5	7.14%	12"	RCP	-
P-162B	S-161	S-162B	910.23	911.28	35.0	32.0	3.28%	12"	RCP	-
P-162	S-161	S-162	908.73	909.53	149.0	145.0	0.55%	24"	RCP	-
P-163A	S-162	S-163A	910.65	910.89	19.0	15.5	1.55%	12"	RCP	-
P-163	S-162	S-163	909.53	909.65	27.5	23.5	0.51%	24"	RCP	-
P-164	S-163	S-164	909.65	910.28	130.0	127.0	0.50%	24"	RCP	-
P-165	S-164	S-165	910.53	910.62	20.0	17.0	0.53%	18"	RCP	-
P-191	T-190	S-191	911.98	912.30	22.0	19.5	1.64%	12"	RCP	-
P-166	S-165	S-166	910.62	910.97	72.5	69.5	0.50%	18"	RCP	-
P-167A	S-166	S-167A	911.47	911.72	53.5	50.5	0.50%	12"	RCP	-
P-167	S-166	S-167	910.97	912.26	175.5	172.5	0.75%	18"	RCP	-
P-168A	S-167	S-168A	912.76	912.96	40.5	39.0	0.51%	12"	RCP	-
P-168	S-167	S-168	912.26	914.05	199.0	196.0	0.91%	18"	RCP	-
P-169	S-168	S-169	914.30	914.53	49.0	46.0	0.50%	12"	RCP	-
P-170	S-169	S-170	914.53	914.73	29.0	26.0	0.77%	12"	RCP	-

PROPOSED STORM PIPES (CONTINUED)

PIPE NO.	FROM (DNSTM)	TO (UPSTM)	DISCH. E.I.	INLET E.I.	PLAN (PAY) LGTH (FT)	PIPE LGTH (FT)	SLOPE (%)	PIPE SIZE	TYPE	NOTES
MONROE STREET (PROSPECT AVENUE TO OAKLAND AVENUE)										
P-201	S-200	S-201	860.09	860.35	31.5	25.0	1.04%	42"	RCP	-
P-201A	S-200	S-201A	862.60	863.73	31.0	27.5	4.11%	12"	RCP	-
P-201B	S-201A	S-201B	863.73	864.46	26.5	26.5	2.75%	12"	RCP	-
P-201C	S-201B	S-201C	864.46	864.51	11.5	8.5	0.59%	12"	RCP	-
P-203	S-201	S-203	860.35	868.02	203.0	198.0	3.87%	42"	RCP	-
P-204	S-203	S-204	868.02	869.57	48.5	43.0	3.60%	42"	RCP	-
P-204A	S-203	S-204A	871.12	872.33	25.5	21.5	5.63%	12"	RCP	-
P-205	S-204	S-205	869.57	879.20	264.0	259.0	3.72%	42"	RCP	-
P-205A	S-204	S-205A	870.82	871.06	51.5	47.5	0.51%	12"	RCP	-
* P-206	S-205	S-206	879.20	882.34	89.5	84.5	3.72%	42"	RCP	-
P-206A	S-205	S-206A	879.79	880.00	45.5	41.5	0.51%	12"	RCP	-
P-207	S-206	S-207	882.34	887.26	158.0	153.0	3.22%	42"	RCP	-
P-207A	S-206	S-207A	885.12	885.35	49.5	45.5	0.51%	12"	RCP	-
P-207B	S-207A	S-207B	885.35	886.16	23.0	20.0	4.05%	12"	RCP	-
P-208	S-207	S-208	887.26	887.46	32.5	27.5	0.73%	42"	RCP	-
P-208A	S-207	S-208A	887.89	887.95	17.0	12.0	0.50%	18"	RCP	-
P-208B	S-208A	S-208B	888.45	888.59	28.0	26.0	0.54%	12"	RCP	-
P-209	S-208	S-209	887.46	888.48	208.0	203.0	0.50%	42"	RCP	[7]
P-209A	S-208	S-209A	891.83	892.65	48.5	44.5	1.84%	12"	RCP	-
P-210	S-209	S-210	888.48	888.75	59.0	53.5	0.50%	42"	RCP	-
P-210A	S-209	S-210A	897.35	897.55	44.5	41.0	0.49%	18"	RCP	-
P-210B	S-210A	S-210B	897.55	900.56	77.5	74.5	4.04%	12"	RCP	-
P-211	S-210	S-211	898.33	900.76	88.5	84.0	2.89%	18"	RCP	-
P-211A	S-210	T-211A	889.25	889.61	77.0	72.5	0.50%	36"	RCP	-
P-212	S-211	S-212	900.76	901.31	57.5	54.5	1.01%	18"	RCP	-
P-213	S-212	S-213	901.31	912.44	324.5	321.5	3.46%	18"	RCP	-
P-213A	S-212	S-213A	904.18	904.52	44.0	41.5	0.82%	12"	RCP	-
P-214	S-213	S-214	912.94	915.73	134.0	131.0	2.13%	12"	RCP	-
P-214A	S-213	S-214A	912.94	913.89	43.0	40.5	2.35%	12"	RCP	-
P-215	S-214	T-215	915.73	916.04	42.5	40.5	0.77%	12"	RCP	-
* P-251	S-250	S-251	865.75	866.79	19.5	14.5	7.17%	12"	RCP	-
* P-251A	S-250	S-251A	865.75	866.05	39.0	34.5	0.87%	12"	RCP	-
* P-252	S-251	S-252	866.79	868.69	63.5	60.5	3.14%	12"	RCP	-
* P-253	S-252	S-253	868.69	869.59	28.0	25.5	3.53%	12"	RCP	-
SOUTH BREESE TERRACE										
* P-254	S-253	S-254	869.59	870.19	39.0	37.0	1.62%	12"	RCP	-
NAKOMA ROAD										
* P-401	T-400	S-401	860.52	860.65	29.5	26.5	0.49%	14" X 23"	HERCP	-
* P-402	S-401	T-402	860.65	860.85	43.5	40.5	0.49%	14" X 23"	HERCP	-

SPECIFIC NOTES:

- [1] PAID PER SPECIAL BID ITEM 90068 (3' x 3' SAS MODIFIED)
- [2] PAID PER SPECIAL BID ITEM 90065 (RECONSTRUCT CATCHBASIN TO SAS CASTING)
- \*[3] PAID PER SPECIAL BID ITEM 90066 (8' x 4' RCB ASTM C-1433 45 DEGREES PRECAST BEND)
- [4] PAID PER SPECIAL BID ITEM 90070 (8' x 4' ASTM-C-1433 BOX CULVERT-INSTALLATION)
- [5] PAID PER SPECIAL BID ITEM 90067 (7' x 7' SAS)
- \*[6] WITH 3 FT SUMP FROM THE INVERT OF THE DISCHARGE PIPE.
- [7] PRIVATE STORM SEWER RECONNECT, TYPE 1
- [8] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 96+88.56 RT 34.90'
- \*[9] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 35+82.04 RT 25.29'
- \*[10] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 41+47.98 RT 23.87'
- \*[11] INSTALL PIPE PLUG, INCIDENTAL TO PIPE REMOVAL

STANDARD NOTES:

- ABBREVIATIONS: AE = APRON ENDWALL; RCP = REINFORCED CONCRETE PIPE; HERCP = HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE; DNA = DOES NOT APPLY; SAS = SEWER ACCESS STRUCTURE; LP = LOW POINT INLET STRUCTURE; FP = FIELD POURED STRUCTURE; TR = TOP OF CONCRETE ROOF; NCM = NO CROWN MATCH FOR PIPES
- APPROXIMATE DISCHARGE E.I. GIVEN, ADJUST E.I. AND PIPE SLOPE IN THE FIELD.
- TOP OF CASTING GRADE GIVEN IS THE TOP OF CURB FOR INLET STRUCTURES AND THE FLOWLINE OF THE CLOSED CASTING FOR SAS's.
- TOP OF CONCRETE ROOF (TR) IS 1.25' BELOW TOP OF CASTING UNLESS OTHERWISE NOTED.
- ALL REINFORCED CONCRETE PIPES TO BE CLASS III UNLESS OTHERWISE NOTED.
- SURVEYOR TO CONFIRM THAT ALL INLET STATION / OFFSETS LINE UP WITH PROPOSED CURB AND GUTTER.
- ALL STRUCTURES CALLED OUT AS FIELD POURED SHALL BE FIELD POURED. ALL OTHER STRUCTURES (NOT INDICATED AS FIELD POURED) SHALL BE SUBMITTED TO CITY ENGINEERING FOR APPROVAL IF PRECAST STRUCTURES ARE PREFERRED. CONTACT FADI EL MUSA OF CITY ENGINEERING AT (608) 243-5214 FOR PRECAST APPROVALS, OR FAX SHOP DRAWINGS TO (608) 264-9275, OR EMAIL SHOP DRAWINGS TO FELMUSAGONZALEZ@CITYOFMADISON.COM

STORM SEWER SCHEDULE

\* REV.12/12/2017-FBEG

MONROE STREET RECONSTRUCTION 2018	SHEET NO.
PROJECT NO.10251	ST-28
STORM SEWER SCHEDULE	
MONROE STREET	CITY OF MADISON

UTILITY LINE OPENINGS (ULO)

NO.	STATION	LOCATION	TYPE	NOTES
MONROE STREET				
ULO-0	14+29.51	LT-9.59	WATER	-
ULO-0.1	14+34.60	RT-16.28	TELEPHONE	-
* ULO-1	17+52.56	RT-17.52	TELEPHONE	-
ULO-2	18+28.93	LT-32.37	ELECTRIC	-
ULO-3	18+28.89	LT-29.33	GAS	-
ULO-4	20+68.93	LT-29.32	GAS	-
ULO-5	20+82.34	LT-41.59	WATER	-
ULO-6	23+37.32	LT-29.66	GAS	-
ULO-7	23+45.70	LT-38.84	GAS	-
ULO-8	26+53.27	LT-28.81	GAS	-
ULO-9	26+73.19	LT-42.65	WATER	-
ULO-10	26+81.28	LT-43.58	GAS	-
ULO-11	29+58.92	RT-17.32	TELEPHONE	-
* ULO-12	32+29.86	RT-17.41	TELEPHONE	-
ULO-13	32+43.20	LT-28.34	GAS	-
ULO-14	32+48.93	LT-32.69	GAS	-
ULO-15	32+92.24	LT-27.70	GAS	-
ULO-16	35+24.90	LT-23.78	ELECTRIC	-
ULO-17	35+55.62	LT-27.83	GAS & ELECTRIC	-
ULO-18	35+82.46	LT-27.91	GAS & ELECTRIC	-
* ULO-19	36+00.76	RT-18.61	TELEPHONE	-
ULO-20	38+46.20	RT-19.58	TELEPHONE	-
ULO-21	38+52.19	LT-27.90	GAS	-
ULO-22	38+79.65	LT-37.89	GAS	-
ULO-23	38+89.73	LT-27.88	GAS	-
ULO-24	41+47.39	RT-18.63	TELEPHONE	-
ULO-25	41+90.46	RT-18.61	TELEPHONE	-
ULO-26	44+76.15	LT-27.56	GAS & ELECTRIC	-
ULO-27	44+88.83	LT-21.49	TELEPHONE	-
ULO-28	47+36.05	RT-20.81	TELEPHONE	-
ULO-29	47+59.83	LT-28.15	GAS	-
ULO-30	48+81.73	RT-21.90	TELEPHONE	-
ULO-31	49+20.72	RT-22.20	TELEPHONE	-
ULO-32	58+80.14	RT-21.86	TELEPHONE	-
ULO-33	60+78.88	LT-20.45	ELECTRIC	-
ULO-34	64+59.07	RT-21.24	TELEPHONE	-
ULO-35	66+13.95	RT-19.29	TELEPHONE	-
ULO-36	67+67.72	RT-17.31	TELEPHONE	-
ULO-37	70+22.11	RT-15.10	TELEPHONE	-
ULO-38	71+74.37	RT-15.55	TELEPHONE	-
ULO-39	73+90.15	RT-15.93	TELEPHONE	-
ULO-40	80+22.93	LT-0.90	ELECTRIC	-
ULO-41	80+22.85	RT-14.57	TELEPHONE	-
ULO-42	80+22.60	RT-18.23	ELECTRIC	-
ULO-43	81+57.02	RT-14.52	TELEPHONE	-

UTILITY LINE OPENINGS (ULO) CONTINUED

NO.	STATION	LOCATION	TYPE	NOTES
MONROE STREET				
ULO-44	81+56.99	RT-18.38	ELECTRIC	-
ULO-44.1	84+78.86	RT-14.76	TELEPHONE	-
ULO-45	85+59.10	LT-25.85	ELECTRIC	-
ULO-46	85+68.51	LT-27.42	GAS	-
ULO-47	85+75.63	LT-28.64	ELECTRIC	-
ULO-48	85+91.65	LT-31.41	WATER	-
ULO-49	86+79.81	RT-14.97	TELEPHONE	-
ULO-50	88+75.12	RT-14.65	TELEPHONE	-
ULO-51	89+21.27	LT-28.09	GAS	-
ULO-52	90+63.00	RT-14.85	TELEPHONE	-
ULO-53	91+62.71	RT-15.34	TELEPHONE	-
ULO-54	94+53.94	RT-15.96	TELEPHONE	-
ULO-55	95+79.80	LT-52.45	ELECTRIC	-
* ULO-56	97+02.32	LT-27.61	WATER	-

NAKOMI ROAD

* ULO-400	399+42.50	RT-15.59	WATER	-
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ADJUST SAS

STRUC. NO.	STATION	LOCATION (OFFSET)	ID NO.	EX.TOP OF CASTING	PROP.TOP OF CASTING	ADJ.(FT)	NOTES
MONROE STREET							
ADS-1	11+48.64	LT-19.53	NO ID	868.40	868.65	0.25	-
ADS-2	13+00.76	LT-18.55	NO ID	866.27	866.29	0.02	-
ADS-2.1	29+81.44	RT-27.32	AS 4158-046	861.21	861.14	-0.07	-
ADS-3A	35+53.89	LT-47.19	AS 4157-061	858.38	858.38	0.00	-
ADS-3B	35+56.74	LT-47.21	AS 4157-061	858.38	858.38	0.00	-
ADS-4	41+59.76	LT-54.83	NO ID	861.12	861.32	0.20	-
ADS-5A	51+94.85	LT-40.56	CB 4256-030	884.36	884.36	0.00	-
ADS-5B	51+98.05	LT-40.15	CB 4256-030	884.47	884.47	0.00	-
ADS-6	69+27.38	LT-33.41	AS 4355-047	915.18	915.05	-0.13	-
ADS-7	85+73.55	LT-92.44	AS 4453-054	903.11	903.11	0.00	-

SOUTH BREESE TERRACE

ADS-10	202+64.90	LT-20.44	AS 4453-005	877.74	877.58	-0.16	-
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NAKOMI ROAD

*ADS-20	399+33.81	LT-19.15	NO ID	864.85	864.93	0.08	-
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ADJUST INLET

STRUC. NO.	STATION	LOCATION (OFFSET)	ID NO.	EX.TOP OF CASTING	PROP.TOP OF CASTING	ADJ.(FT)	NOTES
MONROE STREET							
ADI-9	11+83.89	RT-18.08	IN 4059-016	867.56	867.56	0.00	-
ADI-10	11+83.37	LT-0.15	IN 4059-017	868.18	868.00	-0.18	w/ R-3290-A
ADI-11	13+17.64	LT-23.71	IN 4059-010	866.24	866.53	0.29	-
ADI-12	13+21.32	LT-23.69	IN 4059-010	866.24	866.49	0.25	-
ADI-13	13+95.61	LT-43.90	IN 4059-026	865.20	865.38	0.18	-
ADI-14	13+96.81	LT-48.06	IN 4059-026	865.20	865.42	0.22	-
ADI-15	14+29.39	LT-41.51	IN 4059-027	864.93	865.35	0.42	-
ADI-16	14+29.95	LT-37.43	IN 4059-027	864.95	865.30	0.35	-
ADI-21	48+98.73	LT-20.75	IN 4256-008	872.28	872.51	0.23	-
ADI-22	80+22.54	RT-21.02	IN 4454-083	919.60	920.04	0.44	-
GLENWAY STREET							
ADI-19	400+42.33	RT-18.97	IN 4059-034	864.71	864.93	0.22	-
ADI-20	400+46.03	RT-18.87	IN 4059-034	864.71	864.86	0.15	-
NAKOMI ROAD							
ADI-23	399+69.55	LT-19.65	IN 4060-005	865.66	865.75	0.09	-
ADI-24	399+78.70	LT-19.94	IN 4060-004	865.76	865.75	-0.01	-
ADI-25	401+77.35	LT-6.31	IN 4059-014	868.55	868.60	0.05	-
ODANA ROAD							
ADI-1	601+15.52	RT-20.97	IN 4059-009	872.61	872.69	0.08	-
ADI-2	601+37.18	RT-20.93	IN 4059-008	872.08	872.15	0.07	-
ADI-3	601+29.03	LT-32.38	IN 4059-020	872.23	872.23	0.00	-
ADI-5	601+91.14	RT-11.09	IN 4059-022	870.97	870.89	-0.08	-
ADI-6	601+66.75	LT-43.42	IN 4059-019	871.19	871.10	-0.09	-
ADI-7	601+98.31	LT-1.03	IN 4059-021	870.71	870.94	0.23	-
ADI-8	602+49.86	LT-42.96	IN 4059-018	869.73	869.85	0.12	-

ADJUST CATCHBASIN

STRUC. NO.	STATION	LOCATION (OFFSET)	ID NO.	EX.TOP OF CASTING	PROP.TOP OF CASTING	ADJ.(FT)	NOTES
SOUTH BREESE TERRACE							
ADC-8	201+73.10	RT-78.53	AS 4553-020	872.29	871.50	-0.79	-
ADC-9	202+09.83	RT-43.18	AS 4553-021	874.25	874.25	0.00	-

SPECIFIC NOTES:

- [1] PAID PER SPECIAL BID ITEM 90068 (3' x 3' SAS MODIFIED)
- [2] PAID PER SPECIAL BID ITEM 90065 (RECONSTRUCT CATCHBASIN TO SAS CASTING)
- \*[3] PAID PER SPECIAL BID ITEM 90066 (8' x 4 'RCB ASTM C-1433 45 DEGREES PRECAST BEND)
- [4] PAID PER SPECIAL BID ITEM 90070 (8' x 4' ASTM-C-1433 BOX CULVERT-INSTALLATION)
- [5] PAID PER SPECIAL BID ITEM 90067 (7' x 7' SAS)
- \*[6] WITH 3 FT SUMP FROM THE INVERT OF THE DISCHARGE PIPE.
- [7] PRIVATE STORM SEWER RECONNECT, TYPE 1
- [8] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 96+88.56 RT 34.90'
- \*[9] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 35+82.04 RT 25.29'
- \*[10] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 41+47.98 RT 23.87'
- \*[11] INSTALL PIPE PLUG, INCIDENTAL TO PIPE REMOVAL

STANDARD NOTES:

- ABBREVIATIONS: AE = APRON ENDWALL; RCP = REINFORCED CONCRETE PIPE; HERCP = HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE; DNA = DOES NOT APPLY; SAS = SEWER ACCESS STRUCTURE; LP = LOW POINT INLET STRUCTURE; FP = FIELD POURED STRUCTURE; TR = TOP OF CONCRETE ROOF; NCM = NO CROWN MATCH FOR PIPES
- APPROXIMATE DISCHARGE E.I. GIVEN, ADJUST E.I. AND PIPE SLOPE IN THE FIELD.
- TOP OF CASTING GRADE GIVEN IS THE TOP OF CURB FOR INLET STRUCTURES AND THE FLOWLINE OF THE CLOSED CASTING FOR SAS's.
- TOP OF CONCRETE ROOF (TR) IS 1.25' BELOW TOP OF CASTING UNLESS OTHERWISE NOTED.
- ALL REINFORCED CONCRETE PIPES TO BE CLASS III UNLESS OTHERWISE NOTED.
- SURVEYOR TO CONFIRM THAT ALL INLET STATION / OFFSETS LINE UP WITH PROPOSED CURB AND GUTTER.
- ALL STRUCTURES CALLED OUT AS FIELD POURED SHALL BE FIELD POURED. ALL OTHER STRUCTURES (NOT INDICATED AS FIELD POURED) SHALL BE SUBMITTED TO CITY ENGINEERING FOR APPROVAL IF PRECAST STRUCTURES ARE PREFERRED. CONTACT FADI EL MUSA OF CITY ENGINEERING AT (608) 243-5214 FOR PRECAST APPROVALS, OR FAX SHOP DRAWINGS TO (608) 264-9275, OR EMAIL SHOP DRAWINGS TO FELMUSAGONZALEZ@CITYOFMADISON.COM

STORM SEWER SCHEDULE

\* REV.12/12/2017-FBEG

MONROE STREET RECONSTRUCTION 2018	SHEET NO.
PROJECT NO.10251	ST-29
STORM SEWER SCHEDULE	
MONROE STREET	CITY OF MADISON

REMOVE/ ABANDON STORM STRUCTURES

STRUC. NO.	ID NO.	STATION	LOCATION (OFFSET) FT	TYPE	NOTES
MONROE STREET					
RS-1	AS 4059-012	13+07.06	RT-13.81	SAS	REMOVE
RC-1	AS 4059-013	14+27.49	LT-20.10	SAS	REMOVE
RS-2	IN 4059-030	16+97.24	LT-18.25	SAS	REMOVE
RS-3	AS 4059-031	17+82.50	LT-19.54	SAS	REMOVE
ABS-1	AS 4158-019	26+82.55	RT-26.50	CATCHBASIN	ABANDON
ABS-2	AS 4158-009	32+82.83	RT-25.44	CATCHBASIN	ABANDON
RC-5	AS 4157-010	38+45.51	RT-25.46	CATCHBASIN	REMOVE
ABS-3	AS 4256-015	51+91.13	RT-23.81	SAS	ABANDON
ABS-4	AS 4256-019	55+18.66	RT-24.06	SAS	ABANDON
RS-4	AS 4256-021	57+04.88	RT-24.68	SAS	REMOVE
ABS-5	AS 4355-006	60+61.16	RT-23.69	SAS	ABANDON
RS-6	AS 4355-044	69+19.88	LT-21.43	SAS	REMOVE
RS-7	AS 4355-043	69+53.99	LT-19.49	SAS	REMOVE
RC-6	AS 4355-017	69+43.67	RT-24.14	CATCHBASIN	REMOVE
RC-7	AS 4355-016	70+18.36	RT-25.50	CATCHBASIN	REMOVE
RC-8	AS 4453-004	86+97.23	RT-19.92	CATCHBASIN	REMOVE
RC-9	AS 4453-029	89+12.04	RT-19.14	CATCHBASIN	REMOVE
RS-8	AS 4453-028	89+12.26	LT-21.88	SAS	REMOVE
RC-10	AS 4553-001	95+25.12	RT-23.45	CATCHBASIN	REMOVE
RS-9	AS 4453-035	95+06.79	LT-21.44	SAS	REMOVE
RC-11	AS 4553-019	96+88.55	RT-23.50	SAS	REMOVE

REMOVE STORM SEWER PIPE

REMOVE NO.	REMOVE FROM	REMOVE TO	LENGTH (FT)	PAID (Y/N)	PAID LENGTH (FT)	PIPE SIZE	TYPE	NOTES
MONROE STREET								
RP-0	ADI-5	RI-0	14.0	Y	14.0	12"	RCP	REMOVE
RP-1	STA 13+08.44 LT 17.04'	RS-1	32.5	Y	32.5	12"	RCP	REMOVE
RP-2	RS-1	RI-1	12.0	Y	12.5	12"	RCP	REMOVE
RP-3	S-20	RI-2.2	52.5	Y	52.5	12"	RCP	REMOVE
RP-3.1	RS-2	S-31	23.5	Y	23.5	8'X3' BOX	RCP	REMOVE
RP-3.2	S-30	RS-2	17.5	Y	17.5	8'X3' BOX	RCP	REMOVE
RP-3.3	RS-3	RI-5	45.5	N	0.0	19"X30"	HERCP	REMOVE
* RP-4	STA 17+83.76 LT 42.17	RI-3	5.5	Y	5.5	12"	RCP	REMOVE; [11]
* RP-5	<b>R-4.4</b>	RI-4.1	20.5	N	0.0	15"	RCP	REMOVE
RP-6	RI-4.1	RI-4.2	11.5	N	0.0	12"	RCP	REMOVE
RP-7	RI-5	ADI-19	19.5	Y	19.5	12"	RCP	REMOVE
RP-8	RI-5	RI-6	10.5	N	0.00	12"	RCP	REMOVE
RP-9	RI-7.1	RI-7	17.0	N	0.00	12"	RCP	REMOVE
RP-10	RI-7.1	RI-8	17.5	N	0.00	12"	RCP	REMOVE
RP-11	ABS-1	RI-7.1	55.0	Y	55.0	12"	RCP	REMOVE
RP-12	ABS-1	RI-11	48.5	Y	48.5	12"	RCP	REMOVE
RP-13	RI-11	RI-12	22.0	Y	22.0	12"	RCP	REMOVE
RP-14	RI-11	RI-10	8.0	Y	8.0	12"	RCP	REMOVE
RP-15	ADS-2.1	RI-14	34.0	Y	34.0	12"	VP	REMOVE
RP-15.1	ADS-2.1	PLUG-1	29.0	Y	29.0	12"	VP	REMOVE
RP-16	ADS-2.1	RI-15	54.0	Y	54.0	12"	VP	REMOVE
RP-17	ADS-2.1	S-60B	45.0	N	0.0	18"	VP	REMOVE
RP-18	RI-15	RI-13	23.0	Y	23.0	12"	RCP	REMOVE
RP-19	ABS-2	RI-18	18.5	Y	18.5	12"	RCP	REMOVE
RP-20	ABS-2	RI-16	53.5	Y	53.5	12"	VP	REMOVE
RP-21	RI-16	RI-19	15.0	Y	15.0	12"	RCP	REMOVE
RP-22	ABS-2	RI-21	62.5	Y	62.5	12"	VP	REMOVE
* RP-23	<b>ABS-2</b>	S-75	63.0	Y	63.0	15"	CIP	REMOVE
* RP-24	EX. IN 4157-020	<b>T-68.5</b>	25.0	Y	25.0	12"	RCP	REMOVE
RP-25	RI-24	PLUG-2	63.5	Y	63.5	12"	VP	REMOVE
RP-26	RI-24	T-81	74.0	N	0.0	3'X2.5' BOX	RCP	REMOVE
RP-27	RC-5	RI-26	67.0	N	0.0	12"	VP	REMOVE
RP-28	RC-5	RI-28	52.0	Y	52.0	15"	RCP	REMOVE
RP-29	RI-28	RI-29	23.5	Y	23.5	12"	RCP	REMOVE
* <b>RP-30</b>	<b>RI-28</b>	<b>STA 38+91.43 LT 40.51'</b>	<b>25.0</b>	<b>Y</b>	<b>25.0</b>	<b>4"</b>	<b>PVC</b>	<b>REMOVE</b>
RP-31	RI-31	RI-35	40.0	N	0.0	3'X2.5' BOX	RCP	REMOVE
RP-32	RI-31	RI-32	11.0	N	0.0	15"	RCP	REMOVE
RP-33	RI-32	RI-33	47.0	N	0.0	14"X23"	HERCP	REMOVE
RP-34	RI-34	RI-36	24.0	Y	24.0	12"	RCP	REMOVE
RP-35	RI-34	ADS-4	13.5	N	0.00	18"	RCP	REMOVE
RP-36	EX. AS 4257-004	STA 44+50.73 LT 35.50'	66.0	Y	66.0	12"	VP	REMOVE
RP-37	EX. AS 4257-004	T-115A	77.5	Y	53.0	12"	VP	REMOVE
* RP-38	STA 44+83.63 RT 26.77'	T-115A	68.0	Y	68.0	18"	VP	<b>REMOVE; [11]</b>
RP-39	STA 45+70.55 RT 26.88'	S-116	47.0	Y	47.0	4"	VP	REMOVE
RP-40	STA 46+38.54 RT 26.88'	S-117	52.0	Y	52.0	12"	RCP	REMOVE

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- \*[3] PAID PER SPECIAL BID ITEM 90066 (8' x 4 'RCB ASTM C-1433 45 DEGREES PRECAST BEND)**
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- \*[9] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 35+82.04 RT 25.29'**
- \*[10] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 41+47.98 RT 23.87'**
- \*[11] INSTALL PIPE PLUG, INCIDENTAL TO PIPE REMOVAL**

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STORM SEWER SCHEDULE

\* REV.12/12/2017-FBEG

MONROE STREET RECONSTRUCTION 2018	SHEET NO.
PROJECT NO.10251	ST-30
STORM SEWER SCHEDULE	
MONROE STREET	CITY OF MADISON

REMOVE STORM SEWER PIPE (CONTINUED)

REMOVE NO.	REMOVE FROM	REMOVE TO	LENGTH (FT)	PAID (Y/N)	PAID LENGTH (FT)	PIPE SIZE	TYPE	NOTES
MONROE STREET								
RP-41	STA 47+37.32 LT 6.06'	RI-40	38.5	Y	38.5	12"	VP	REMOVE
RP-42	S-120	S-121	75.0	Y	75.0	3'X2.5' BOX	RCP	REMOVE
RP-43	T-150	RI-43	55.0	Y	55.0	15"	VP	REMOVE
RP-44	ABS-3	S-153A	47.0	Y	47.0	15"	VP	REMOVE
RP-45	ABS-3	RI-44	50.0	Y	50.0	12"	VP	REMOVE
RP-46	RI-44	ADS-5A	22.0	Y	22.0	15"	RCP	REMOVE
RP-47	RI-44	RI-45	35.0	Y	16.0	12"	RCP	REMOVE
RP-48	RI-45	RI-46	5.0	Y	5.0	12"	RCP	REMOVE
RP-50	RS-4	RI-48	13.0	Y	13.0	12"	VP	REMOVE
RP-51	ABS-5	RI-49	42.5	Y	30.0	12"	VP	REMOVE
RP-52	ABS-5	RI-50	50.0	Y	50.0	12"	VP	REMOVE
RP-54	RC-6	RS-6	52.0	Y	52.0	12"	VP	REMOVE
RP-55	RC-6	RS-7	44.0	Y	44.0	12"	VP	REMOVE
RP-56	RS-7	RI-53	15.0	N	0.0	12"	RCP	REMOVE
RP-57	RS-7	RI-52	14.0	Y	14.0	12"	RCP	REMOVE
* RP-58	RI-52	ADS-6	21.0	N	0.0	12"	RCP	REMOVE
RP-59	RC-7	RC-6	74.5	Y	74.5	12"	VP	REMOVE
RP-61	RC-8	ADS-7	165.0	Y	85.0	24"	VP	REMOVE
RP-62	RC-8	STA 86+61.50 RT 27.58'	40.0	Y	40.0	6"	VP	REMOVE
RP-63	STA 87+27.23 RT 19.82	STA 87+27.46 LT 21.24'	43.0	Y	43.0	10"	VP	REMOVE
RP-64	RC-9	RI-56	54.0	Y	54.0	12"	VP	REMOVE
RP-65	RC-9	RS-8	41.0	Y	41.0	12"	VP	REMOVE
RP-66	RS-8	S-208B	40.0	Y	35.0	12"	VP	REMOVE
* RP-66.1	S-207A	S-207B	30.0	Y	30.0	24"	VP	REMOVE
RP-67	RS-9	RI-58	19.0	Y	19.0	12"	RCP	REMOVE
RP-68	RC-10	RS-9	49.0	Y	49.0	12"	VP	REMOVE
RP-68.1	RC-10	S-204A	94.0	N	0.0	24"	VP	REMOVE
RP-69	RS-9	RI-59	34.5	Y	34.5	12"	VP	REMOVE
RP-70	STA 95+27.90 LT 42.30'	STA 95+81.20 LT 39.56'	60.0	Y	60.0	12"	VP	REMOVE
RP-71	RC-11	RC-10	162.0	N	0.0	24"	VP	REMOVE
RP-72	RC-11	RI -62	59.5	Y	59.5	12"	VP	REMOVE
* RP-77	STA 96+85.56 LT 4.12'	STA 96+91.72 LT 3.97'	6.0	Y	6.0	8"	CI	REMOVE
* RP-80	RS-2	RS-3	86.0	Y	86.0	30"	RCP	REMOVE
* RP-81	EX.8' X 3' STM BOX	RI-4.3	90.0	Y	52.0	18"	RCP	REMOVE
SOUTH BREESE TERRACE								
RP-73	ADC-9	RI-63	22.5	Y	22.5	12"	RCP	REMOVE
RP-74	RI-63	RI-64	33.0	Y	33.0	12"	RCP	REMOVE
* RP-75	ADC-8	RI-65	34.0	Y	34.0	12"	RCP	REMOVE
* RP-76	ADC-8	RI-66	48.0	Y	48.0	12"	RCP	REMOVE

SPECIFIC NOTES:

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- [5] PAID PER SPECIAL BID ITEM 90067 (7' x 7' SAS)
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- \*[9] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 35+82.04 RT 25.29'
- \*[10] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 41+47.98 RT 23.87'
- \*[11] INSTALL PIPE PLUG, INCIDENTAL TO PIPE REMOVAL

REMOVE STORM INLET

STRUC. NO.	ID NO.	STATION	LOCATION (OFFSET) FT	TYPE	NOTES
MONROE STREET					
RI-0	IN 4059-023	10+41.28	RT-15.41	H INLET	-
RI-1	IN 4059-011	13+15.80	RT-22.95	H INLET	-
RI-2	IN 4059-011	13+19.95	RT-22.90	H INLET	-
RI-2.1	IN 4059-029	14+57.53	RT-19.91	H INLET	-
RI-2.2	IN 4059-029	14+61.20	RT-19.87	H INLET	-
RI-3	IN 4059-032	17+90.19	LT-41.59	H INLET	-
RI-4	IN 4059-032	17+89.85	LT-37.39	H INLET	-
RI-4.3	IN 4059-040	17+85.13	RT-20.53	H INLET	-
RI-4.4	IN 4059-040	17+89.20	RT-20.56	H INLET	-
RI-4.1	IN 4059-039	18+12.79	RT-20.51	H INLET	-
RI-4.2	IN 4059-038	18+27.97	RT-20.52	H INLET	-
RI-5	IN 4059-033	18+35.52	LT-20.09	H INLET	-
RI-6	IN 4059-037	18+48.42	LT-20.00	H INLET	-
RI-7	IN 4158-023	26+32.62	LT-20.63	H INLET	-
RI-7.1	AS 4158-047	26+52.71	LT-22.68	H INLET	-
RI-8	IN 4158-048	26+54.95	LT-42.60	H INLET	-
RI-9	IN 4158-020	26+78.85	RT-20.04	H INLET	-
RI-10	IN 4158-021	26+79.05	LT-34.71	H INLET	-
RI-11	IN 4158-021	26+80.67	LT-23.62	H INLET	-
RI-12	NO ID	27+04.77	LT-20.41	H INLET	-
RI-13	IN 4158-028	29+28.14	LT-19.96	H INLET	-
RI-14	IN 4158-018	29+44.13	RT-25.03	H INLET	-
RI-15	AS 4158-027	29+53.82	LT-23.12	H INLET	-
RI-16	NO ID	32+52.98	LT-20.20	H INLET	-
RI-17	IN 4158-010	32+55.82	RT-20.05	H INLET	-
RI-18	IN 4158-010	32+59.68	RT-20.05	H INLET	-
RI-19	IN 4158-012	32+53.21	LT-37.65	H INLET	-
RI-20	IN 4158-012	32+53.77	LT-41.71	H INLET	-
RI-21	IN 4158-013	32+77.21	LT-37.56	H INLET	-
RI-22	IN 4158-013	32+76.85	LT-41.52	H INLET	-
RI-23	IN 4157-073	35+53.25	LT-36.27	H INLET	-
RI-24	IN 4157-021	35+82.94	RT-26.35	H INLET	-
RI-25	IN 4157-012	38+43.45	RT-20.16	H INLET	-
RI-26	IN 4157-015	38+53.84	LT-43.82	H INLET	-
RI-27	IN 4157-015	38+53.96	LT-47.78	H INLET	-
RI-28	IN 4157-013	38+75.82	LT-19.62	H INLET	-
RI-29	IN 4157-014	38+76.72	LT-44.42	H INLET	-
RI-30	IN 4157-014	38+76.74	LT-48.13	H INLET	-
RI-31	IN 4157-009	41+46.71	RT-25.09	H INLET	-
RI-32	NO ID	41+47.57	RT-13.62	H INLET	-
RI-33	IN 4157-005	41+51.84	LT-35.01	H INLET	-
RI-34	IN 4157-005	41+52.88	LT-39.59	H INLET	-
RI-35	IN 4257-013	41+86.17	RT-24.50	H INLET	-
RI-36	IN 4157-087	41+78.70	LT-37.39	H INLET	-
RI-37	IN 4157-088	41+77.53	LT-45.12	H INLET	-

STANDARD NOTES:

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- APPROXIMATE DISCHARGE E.I. GIVEN, ADJUST E.I. AND PIPE SLOPE IN THE FI
- TOP OF CASTING GRADE GIVEN IS THE TOP OF CURB FOR INLET STRUCTURES AND THE FLOWLINE OF THE CLOSED CASTING
- TOP OF CONCRETE ROOF (TR) IS 1.25' BELOW TOP OF CASTING UNLESS OTHERWISE NOTED.
- ALL REINFORCED CONCRETE PIPES TO BE CLASS III UNLESS OTHERWISE NOTED.
- SURVEYOR TO CONFIRM THAT ALL INLET STATION / OFFSETS LINE UP WITH PROPOSED CURB AND GUTTER.
- ALL STRUCTURES CALLED OUT AS FIELD POURED SHALL BE FIELD POURED. ALL OTHER STRUCTURES (NOT INDICATED AS FIELD POURED) SHALL BE SUBMITTED TO CITY ENGINEERING FOR APPROVAL IF PRECAST STRUCTURES ARE PREFERRED. CONTACT FADI EL MUSA OF CITY ENGINEERING AT (608) 243-5214 FOR PRECAST APPROVALS, OR FAX SHOP DRAWINGS TO (608) 264-9275, OR EMAIL SHOP DRAWINGS TO FELMUSAGONZALEZ@CITYOFMADISON.COM

STORM SEWER SCHEDULE

\* REV.12/12/2017-FBEG

MONROE STREET RECONSTRUCTION 2018	SHEET NO.
PROJECT NO.10251	ST-31
STORM SEWER SCHEDULE	
MONROE STREET	CITY OF MADISON

REMOVE STORM INLET (CONTINUED)

STRUC. NO.	ID NO.	STATION	LOCATION (OFFSET) FT	TYPE	NOTES
MONROE STREET					
RI-38	IN 4257-014	42+72.67	RT-20.32	H INLET	-
RI-39	IN 4257-005	44+75.37	RT-20.57	H INLET	-
RI-40	IN 4256-013	47+00.02	LT-20.97	H INLET	-
RI-41	IN 4256-014	47+61.15	LT-40.56	H INLET	-
RI-42	IN 4256-014	47+62.99	LT-44.41	H INLET	-
RI-43	IN 4256-009	49+16.82	RT-19.99	H INLET	-
RI-44	IN 4256-024	52+15.74	LT-21.92	H INLET	-
RI-45	IN 4256-016	52+53.42	LT-20.60	H INLET	-
RI-46	NO ID	52+61.20	LT-20.58	H INLET	-
RI-47	IN 4256-018	53+17.77	RT-22.73	H INLET	-
RI-48	IN 4256-020	57+17.63	RT-20.74	H INLET	-
RI-49	IN 4355-003	60+64.21	LT-20.92	H INLET	-
RI-50	IN 4355-002	60+89.20	LT-20.89	H INLET	-
RI-51	IN 4355-001	61+31.50	RT-20.27	H INLET	-
RI-52	IN 4355-046	69+49.25	LT-33.72	H INLET	-
RI-53	IN 4355-045	69+69.10	LT-21.54	H INLET	-
RI-54	IN 4355-020	70+17.42	RT-21.70	H INLET	-
RI-55	IN 4454-046	85+47.38	LT-27.71	H INLET	-
RI-56	IN 4453-033	88+72.78	LT-22.59	H INLET	-
RI-57	IN 4453-030	89+13.57	RT-21.91	H INLET	-
RI-58	IN 4453-036	94+87.02	LT-22.91	H INLET	-
RI-60	IN 4553-018	96+84.23	RT-25.03	H INLET	-
RI-61	IN 4553-022	96+87.18	LT-26.11	H INLET	-
RI-62	IN 4553-023	97+23.93	LT-26.00	H INLET	-
SOUTH BREESE TERRACE					
RI-59	IN 4453-037	200+46.23	LT-18.77	H INLET	-
RI-63	IN 4553-024	202+05.52	RT-17.02	H INLET	-
RI-64	IN 4453-039	201+90.39	LT-17.19	H INLET	-
RI-65	NO ID	202+03.99	LT-22.91	H INLET	-
RI-66	IN 4553-026	202+21.89	RT-76.32	H INLET	-
* RI-67	IN 4553-025	202+11.75	RT-47.35	H INLET	-

ABANDON STORM SEWER PIPE

ABANDON NO.	ABANDON FROM	ABANDON TO	LENGTH (FT)	PIPE SIZE (IN)	VOLUME (C.Y.)	TYPE	NOTES
MONROE STREET							
* ABP-0	RS-2	RS-3	83.0	30	-	VP	PLUGS
* ABP-1	ABS-1	PLUG-1	265.0	12	8	VP	SLURRY
ABP-2	ABS-2	ADS-2.1	295.0	12	-	VP	PLUGS
ABP-3	PLUG-2	ABS-2	230.0	12	-	VP	PLUGS
ABP-4	T-150	ABS-3	327.0	15	-	VP	PLUGS
ABP-5	ABS-3	STA 52+57.87 RT 23.71'	66.5	12	-	VP	PLUGS
* ABP-6	STA 52+57.87 RT 23.71'	RI-47	58.0	12	2	VP	SLURRY
ABP-7	RI-47	ABS-4	200.0	12	-	VP	PLUGS
ABP-8	ABS-4	STA 56+53.53 RT 24.74'	135.0	12	-	VP	PLUGS
* ABP-9	STA 56+53.53 RT 24.74'	RS-4	50.0	12	1	VP	SLURRY
ABP-10	RS-4	ABS-5	355.0	12	-	VP	PLUGS
ABP-11	ABS-5	RI-51	67.5	12	2	RCP	SLURRY
ABP-12	S-180	RC-7	33.5	12	-	VP	PLUGS
* ABP-13	STA 85+58.29 LT 52.31'	RI-55	26.5	12	1	RCP	SLURRY
ABP-14	RC-9	RC-8	215.0	24	-	VP	PLUGS
ABP-15	S-207B	RC-9	120.0	24	-	VP	PLUGS
* ABP-16	S-206A	S-207A	97.0	24	11	VP	SLURRY
ABP-17	S-204A	S-206A	267.5	24	-	VP	PLUGS

PIPE PLUGS

PLUG NO.	STATION	LOCATION (OFFSET) FT	PIPE SIZE (IN)
MONROE STREET			
PLUG 1	29+49.55	RT-27.24	12
PLUG 2	35+16.60	RT-26.20	12

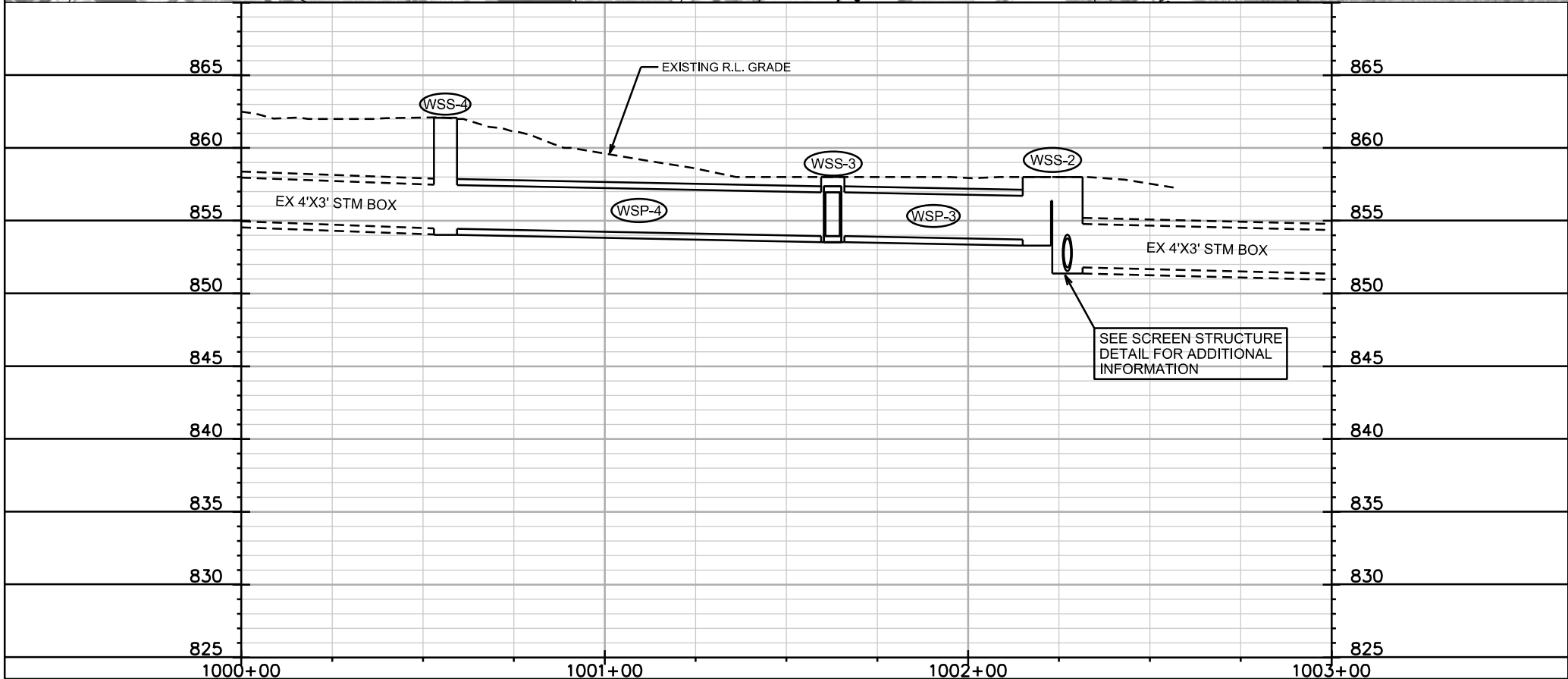
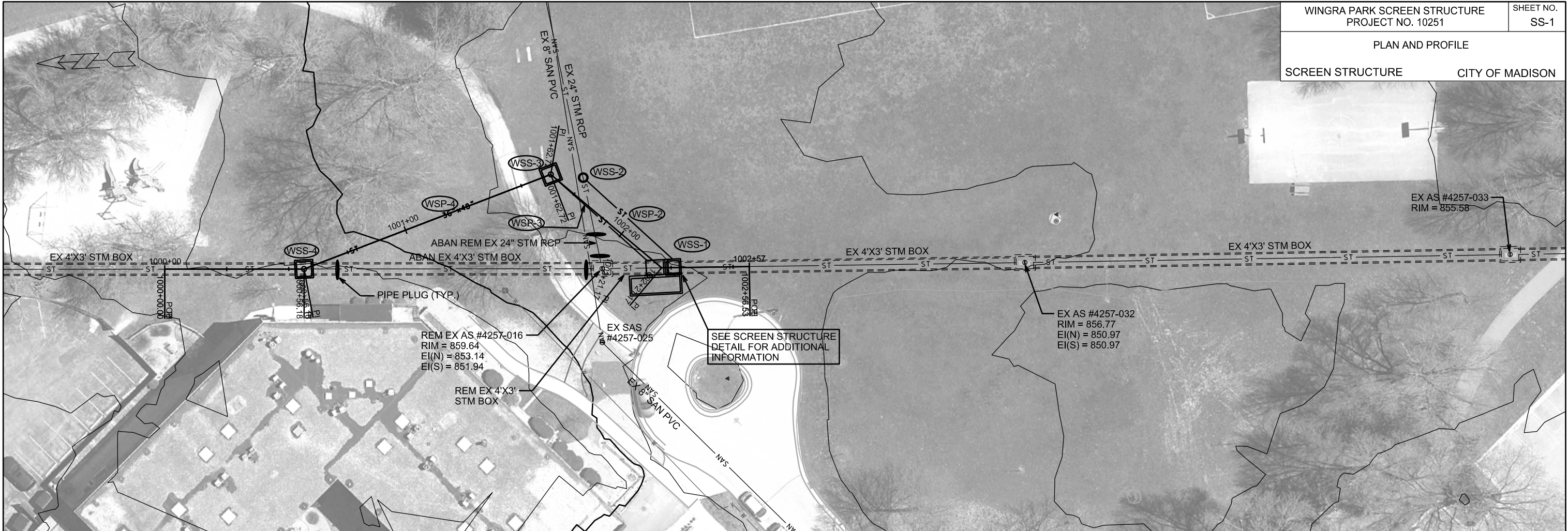
SPECIFIC NOTES:

- [1] PAID PER SPECIAL BID ITEM 90068 (3' x 3' SAS MODIFIED)
- [2] PAID PER SPECIAL BID ITEM 90065 (RECONSTRUCT CATCHBASIN TO SAS CASTING)
- \*[3] PAID PER SPECIAL BID ITEM 90066 (8' x 4 'RCB ASTM C-1433 45 DEGREES PRECAST BEND)
- [4] PAID PER SPECIAL BID ITEM 90070 (8' x 4' ASTM-C-1433 BOX CULVERT-INSTALLATION)
- [5] PAID PER SPECIAL BID ITEM 90067 (7' x 7' SAS)
- \*[6] WITH 3 FT SUMP FROM THE INVERT OF THE DISCHARGE PIPE.
- [7] PRIVATE STORM SEWER RECONNECT, TYPE 1
- [8] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 96+88.56 RT 34.90'
- \*[9] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 35+82.04 RT 25.29'
- \*[10] WITH OFFSET CASTING. CASTING SHALL BE PLACED AT STA 41+47.98 RT 23.87'
- \*[11] INSTALL PIPE PLUG, INCIDENTAL TO PIPE REMOVAL

STANDARD NOTES:

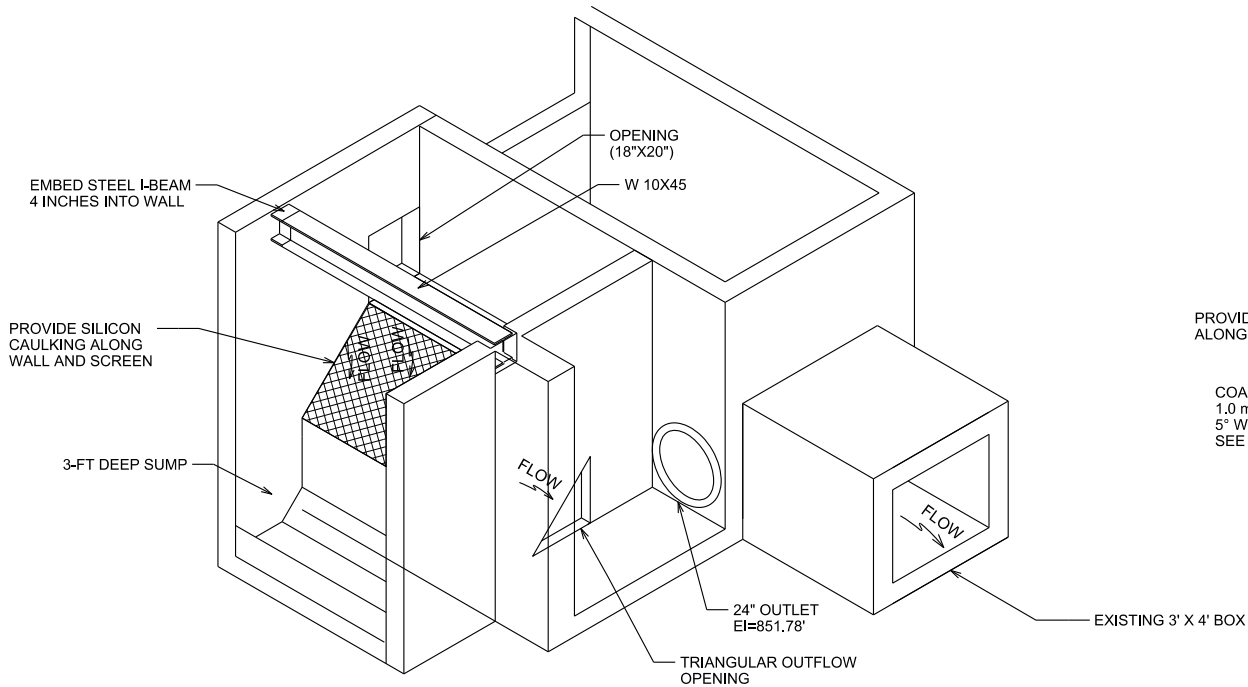
- ABBREVIATIONS: AE = APRON ENDWALL; RCP = REINFORCED CONCRETE PIPE; HERCP = HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE; DNA = DOES NOT APPLY; SAS = SEWER ACCESS STRUCTURE; LP = LOW POINT INLET STRUCTURE; FP = FIELD POURED STRUCTURE; TR = TOP OF CONCRETE ROOF; NCM = NO CROWN MATCH FOR PIPES
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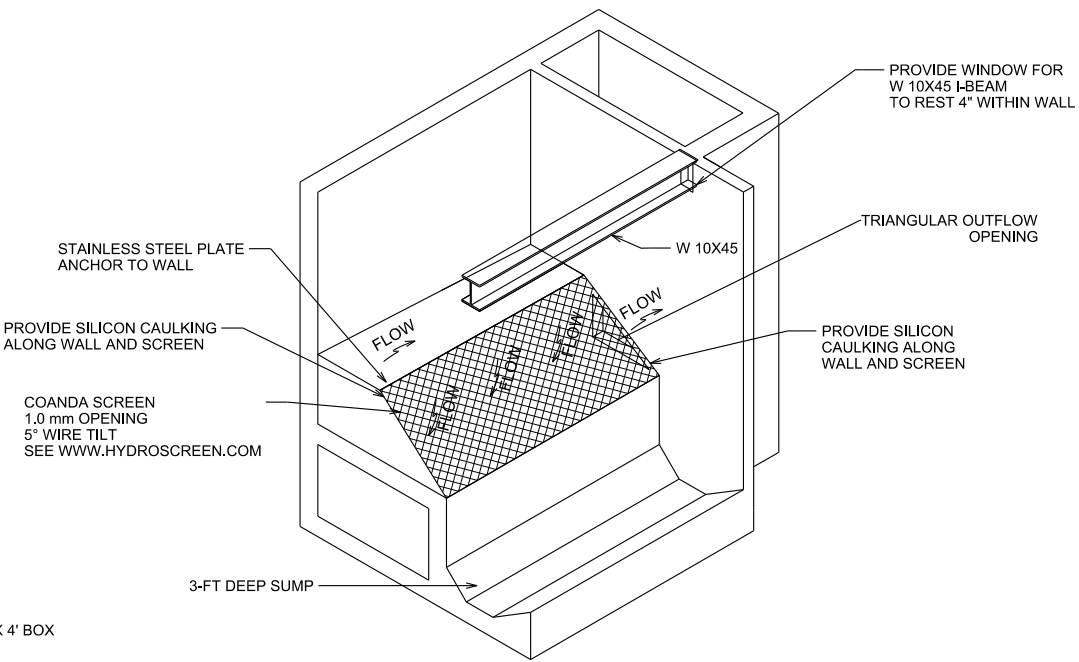




NW ISOMETRIC VIEW  
(SIDEWALLS & ROOF NOT SHOWN)  
PARTIAL VIEW OF SCREEN



NE ISOMETRIC VIEW  
(SIDEWALLS & ROOF NOT SHOWN)  
PARTIAL VIEW OF SCREEN



PLOT SCALE: \_\_\_\_\_

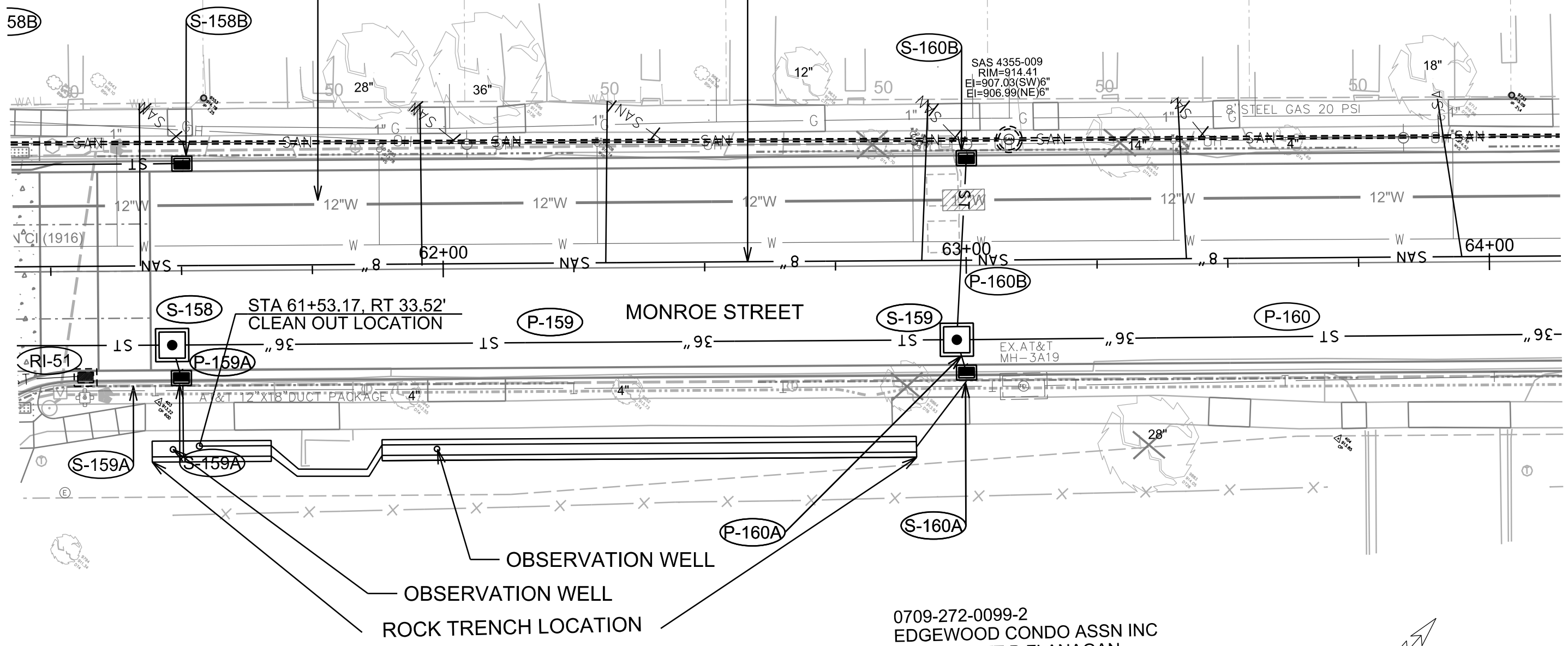
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REV. DATE: \_\_\_\_\_

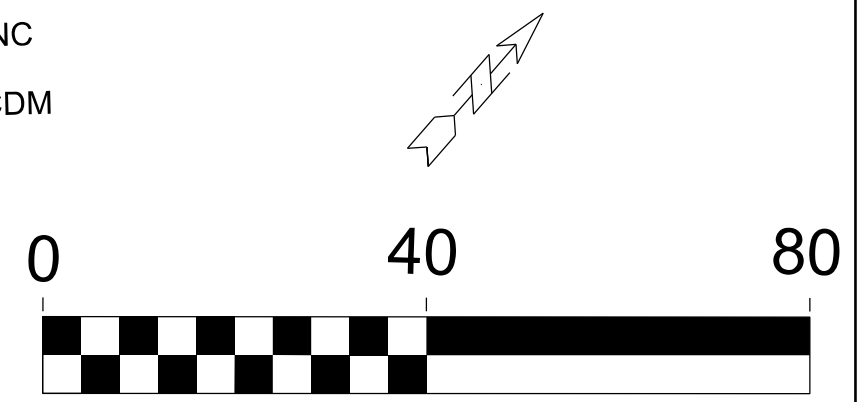
ORIGINATOR: CITY OF MADISON, STREETS DIVISION

PROPOSED WATER MAIN  
(SEE "W" SHEETS)

PROPOSED SANITARY SEWER  
MAIN (SEE "SN" SHEETS)



0709-272-0099-2  
EDGEWOOD CONDO ASSN INC  
% DR SCOTT B FLANAGAN  
1000 Edgewood College Dr #CDM



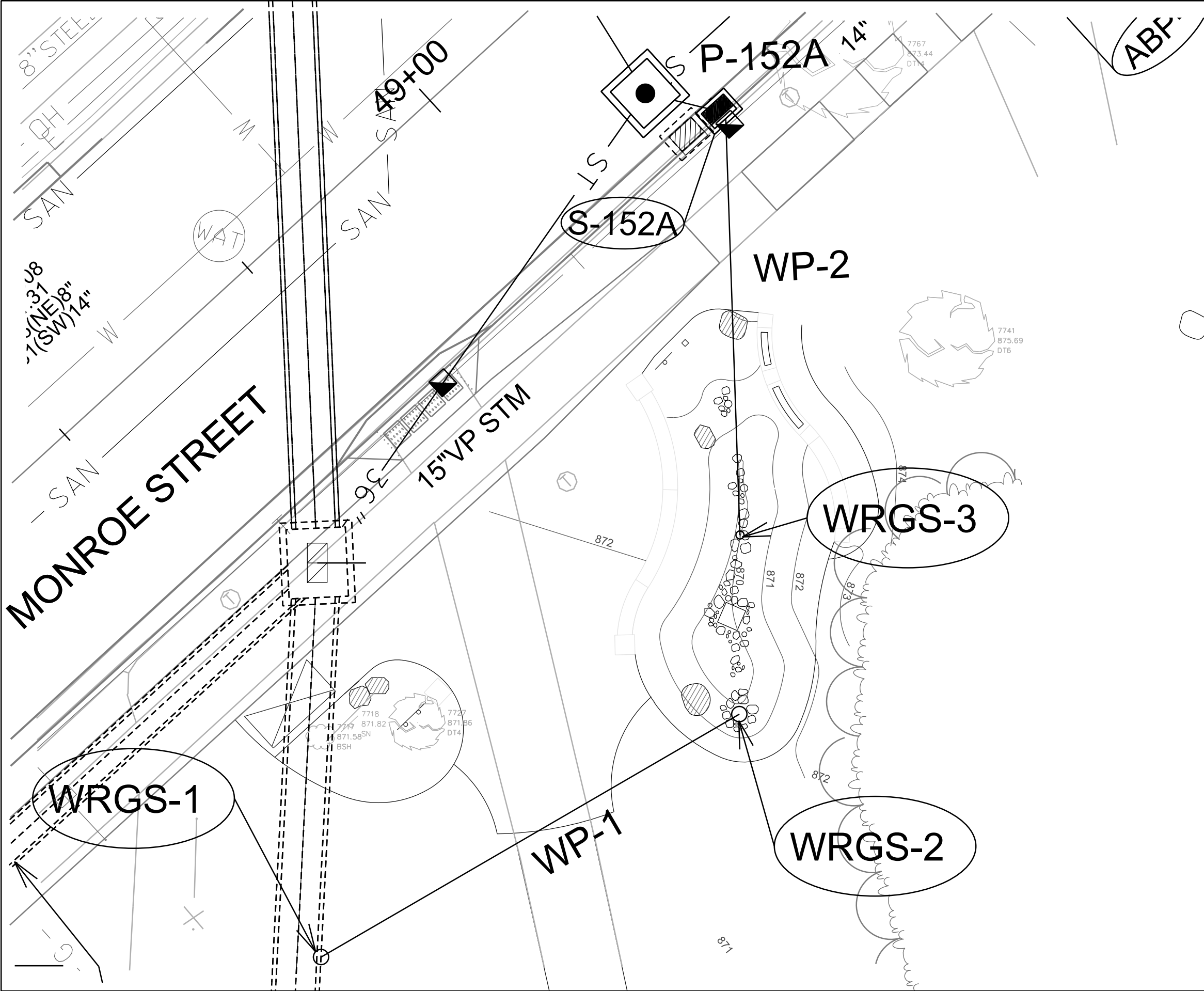
PLOT SCALE: 40  
PLOT NAME: RT-1  
REV. DATE: 12/12/2017  
ORIGINATOR: CITY OF MADISON, STREETS DIVISION

PLOT SCALE: 10

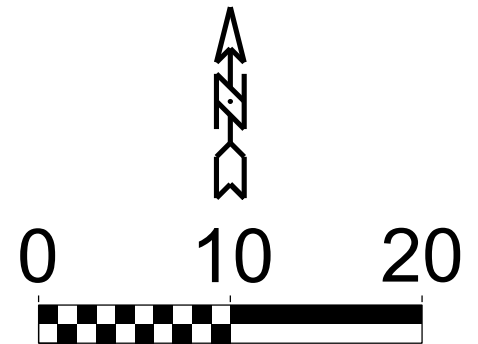
PLOT NAME: WINGRA PARK

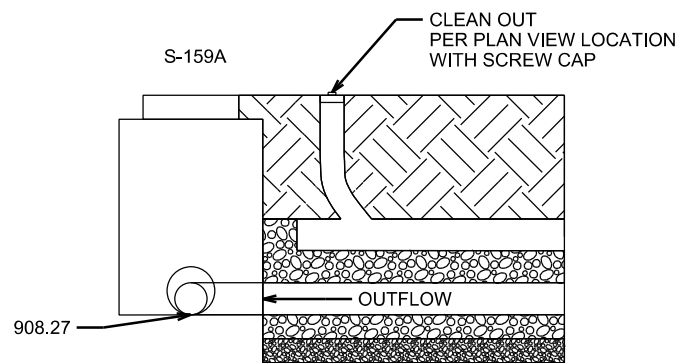
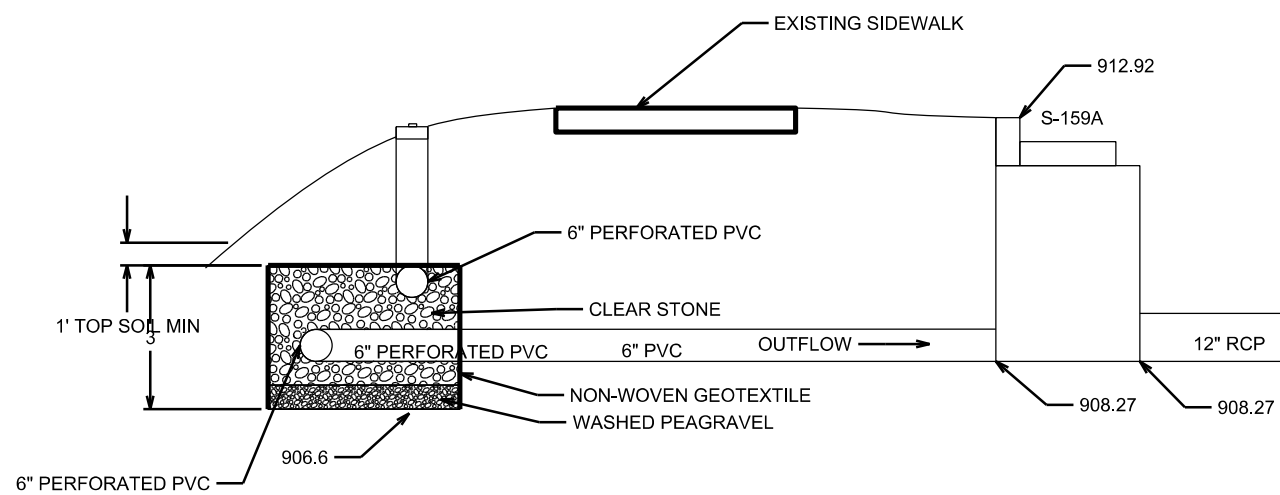
REV. DATE: 12/1

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

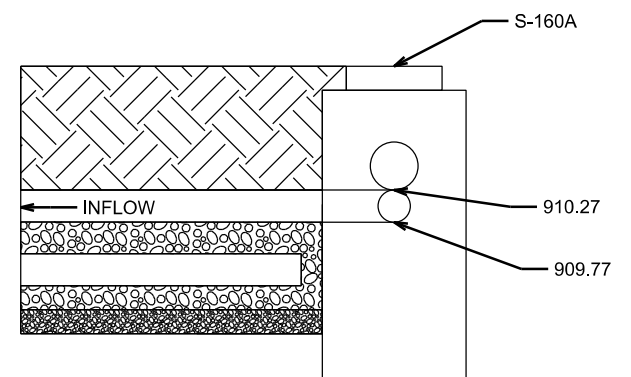
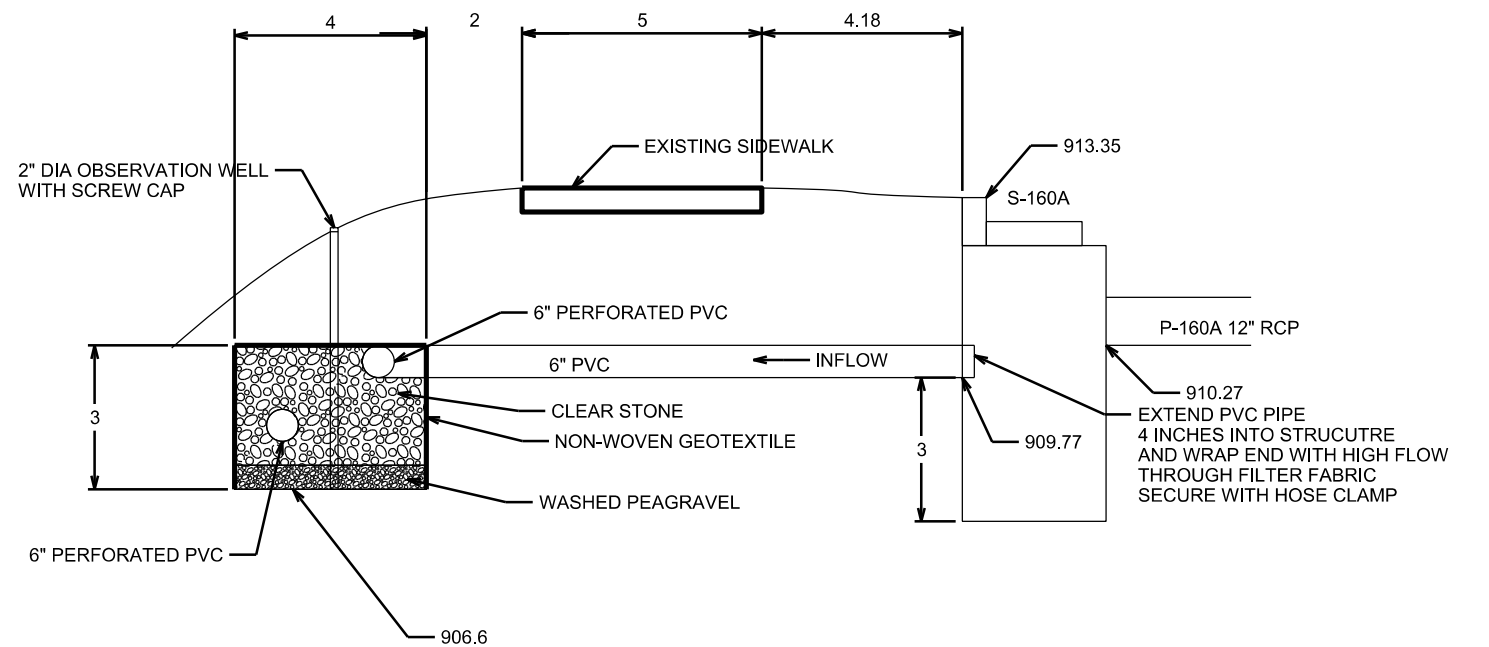


MMONROE STREET PLAZA PROJECT NO. 101251		SHEET NO. BR-1
PLAN		
WINGRA PARK BIORETENTION CITY OF MADISON		

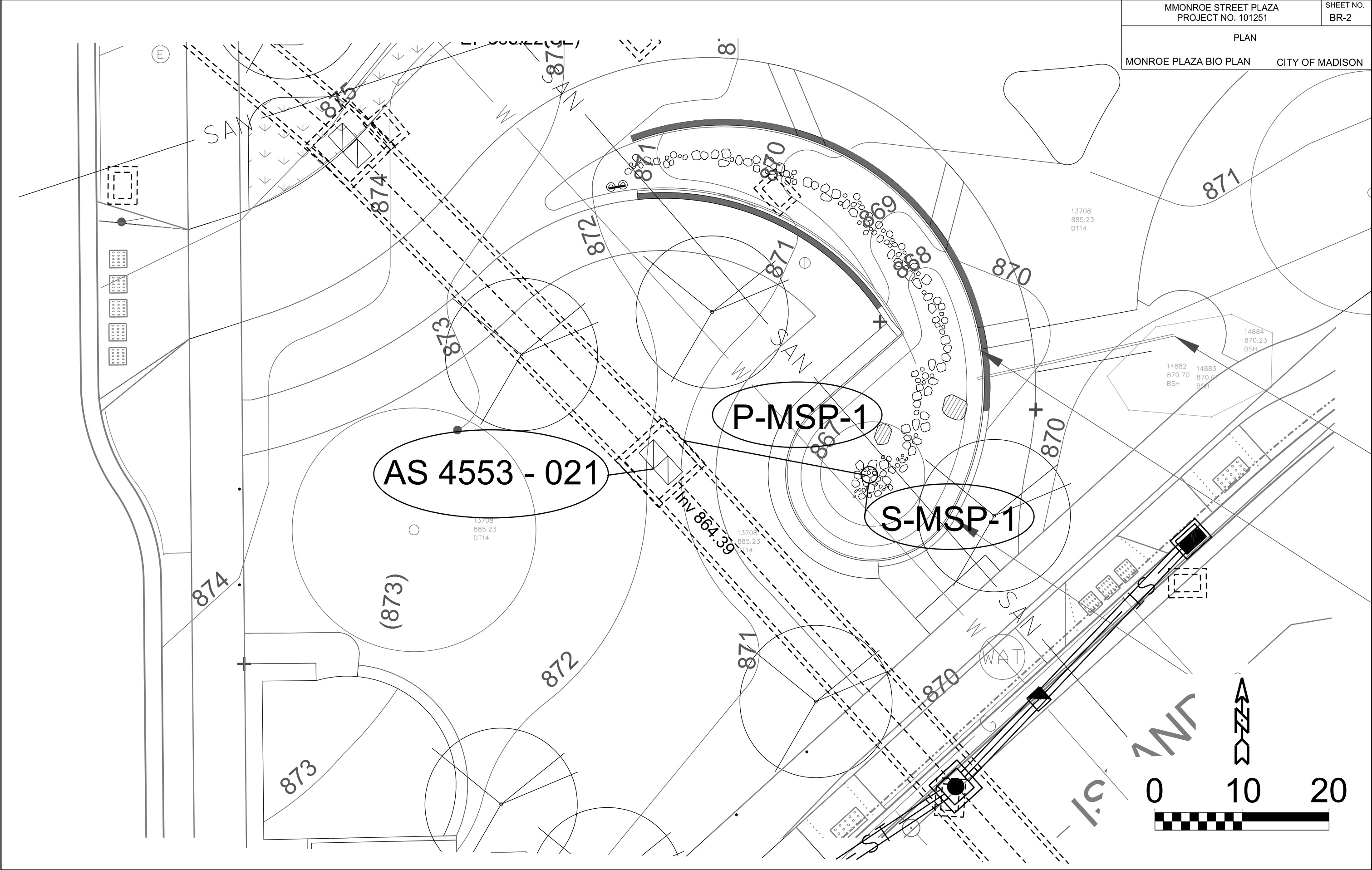




DETAIL OF CONNECTION TO  
S-159A



DETAIL OF CONNECTION TO  
S-160A



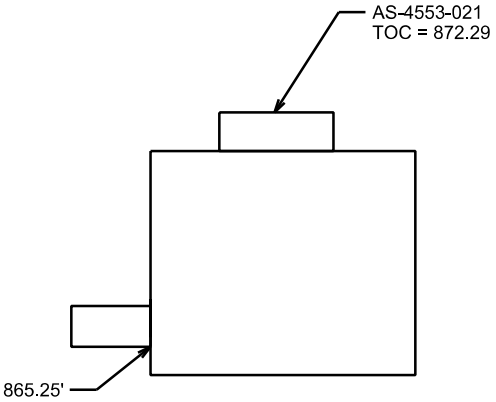
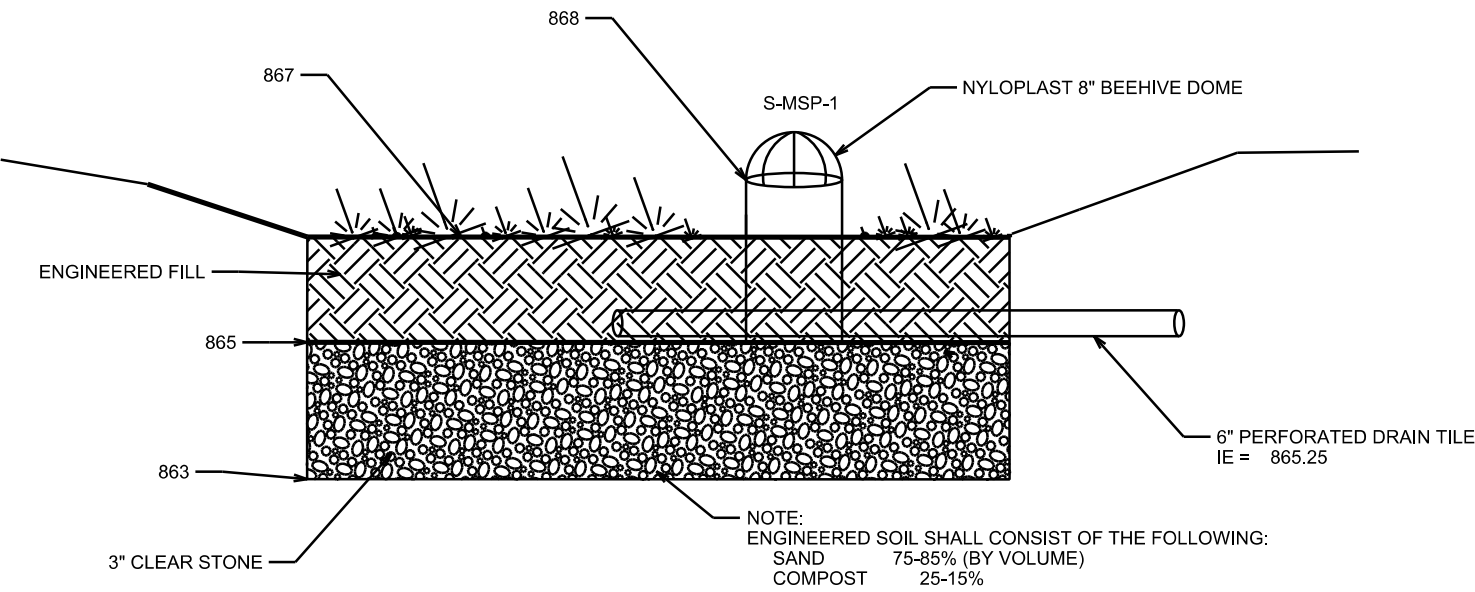
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PLOT NAME: WINGRA PARK

REV. DATE: 12/1

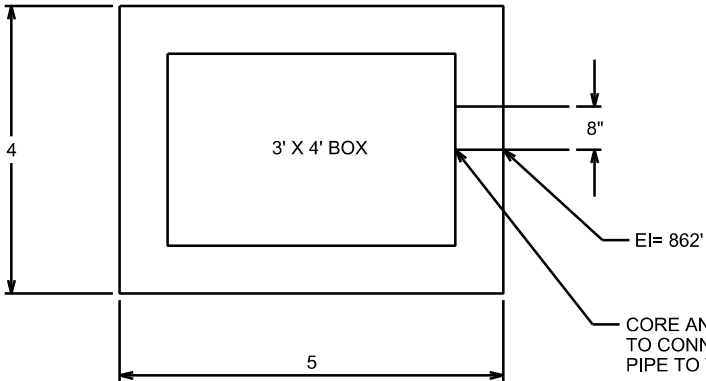
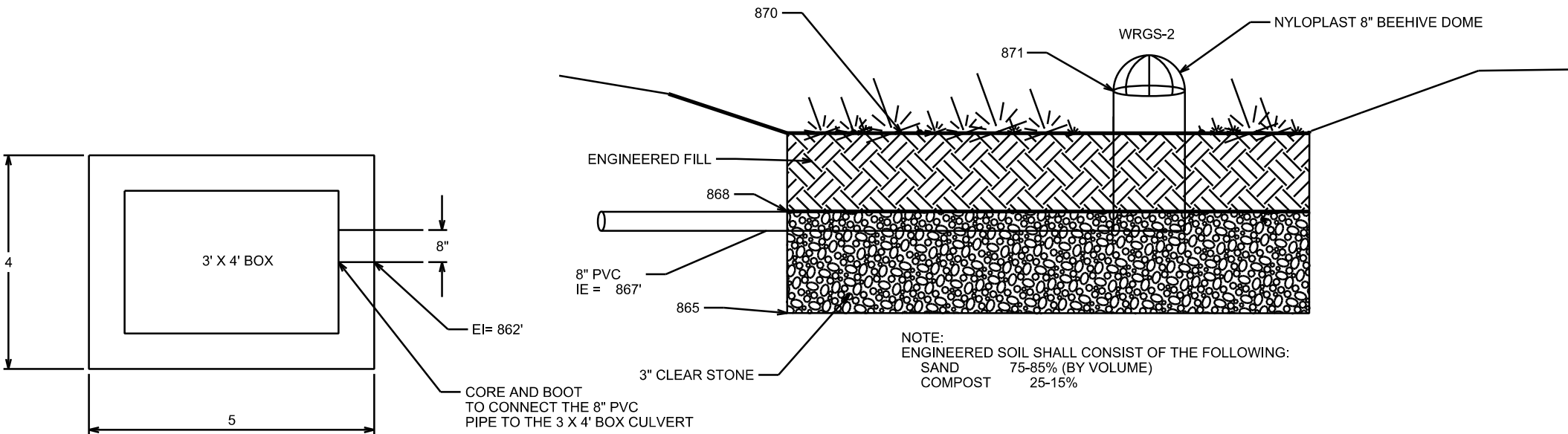
ORIGINATOR: CITY OF MADISON, STREETS DIVISION





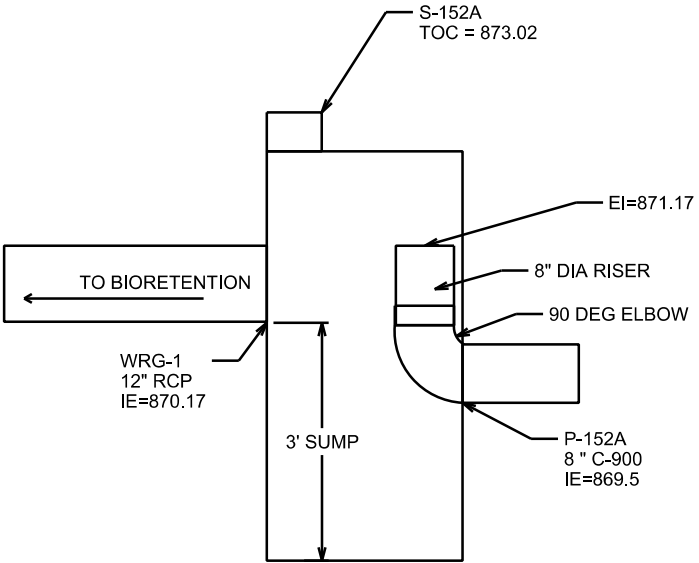
STRUCTURE AS-4553-021 DETAIL

MONROE STREET PLAZA  
BIORETENTION BASIN CROSS-SECTION  
(NOT TO SCALE)



STRUCTURE WRGS-1 DETAIL

WINGRA PARK  
BIORETENTION BASIN CROSS-SECTION  
(NOT TO SCALE)



STRUCTURE S-152A DETAIL

PLOT SCALE: NOT TO SCALE

PLOT NAME: BR-2

REV. DATE: \_\_\_\_\_

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



STORM SEWER SCHEDULE

MONROE STREET STREET RECONSTRUCTION 2018 PROJECT NO. 10251	SHEET NO. BR-4
STORM SEWER SCHEDULE	

PROPOSED STORM STRUCTURES

SAS NO.	TYPE	STATION	LOCATION (OFFSET)	TOP OF CASTING	E.I.	DEPTH	NOTES
Wingra Screen Structure							
WSS-4	6 X 6 BOX	1000+56.18	CL	862.08	854.45	7.63	
WSS-3	6 X 6 BOX	1001+62.72	CL	858.00	853.95	4.05	
WSS-1	SCREEN STRUCTURE	1002+29.00	CL	858.63	851.78	6.85	FP
WSS-2	3 x 3 SAS	1001+73.43	LT 7.44	858.00	852.82	5.18	
Wingra Bioretention							
WRGS-3	12" AE	48+93.49	RT 53.50	871.00	870.00	1.00	
WRGS-2	8" PVC RISER	48+81.24	RT 66.81	871.00	867.00		TOP OF CASTING IS ACTUALLY TOP OF BELL
WRGS-1	TAP	48+33.50	RT 56.40	TAP	862.00	9.00	CORE AND BOOT SEAL
Monroe Plaza Bioretention							
S-MSP-1	8" PVC RISER	97+05.05	LT 59.85	868.00	865.25	2.75	TOP OF CASTING IS ACTUALLY TOP OF BELL
AS 4553-021	TAP	96+88.47	LT76.97	872.84	865.25	7.59	CORE AND BOOT SEAL

PROPOSED STORM PIPES

PIPE NO.	FROM (DNSTM)	TO (UPSTM)	DWNSTRM E.I.	UPSTRM E.I.	PLAN (PAY) LGTH (FT)	SLOPE (%)	PIPE SIZE	PVC TYPE	NOTES
WSP-2	WSS-1	WSS-2	851.78	852.82	47	2.21%		24" RCP	
WSP-3	WSS-1	WSS-3	853.71	853.95	48	0.50%		4' X 3' RCP	
WSP-4	WSS-3	WSS-4	853.95	854.45	100	0.50%		4' X 3' RCP	
P-152A	S-151	S-152A	869.24	869.5	4	6.50%		8" C900	With 90 DEG Elbow
WP-1	WRGS-1	WRGS-2	862	867	51.73	9.67%		8" PVC	
WP-2	WRGS-3	S-152A	870	870.17	42	0.40%		12" RCP	Length includes apron end wall
P-MSP-1	AS 4553-021	S-MSP-1	865.25	865.25	21	0.00%		6" PVC	

STORM SEWER ADANDONMENTS

PIPE NUMBER	FROM (DNSTM)	TO (UPSTM)	LENGTH
EXISTING 3 X 4	4257-016	WSS-4	106.00
EXISTING 24" RCP	4257-016	WSS-2	33.00

STORM SEWER ADANDONMENTS

STRUC. NO  
4257-016

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- TOP OF CONCRETE ROOF (TR) IS 1.25' BELOW TOP OF CASTING UNLESS OTHERWISE NOTED.
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STA 29+79.62, LT 70.33'  
863.34 @ POINT

STA 29+78.68, LT 64.49'  
CENTER OF 2' FLUME

STA 29+82.96, LT 58.48'  
861.77 @ POINT

STA 29+79.77, LT 55.32'  
862.83 @ POINT

STA 29+88.83, LT 70.29'  
863.35 @ POINT

STA 29+84.28, LT 64.69'  
861.77 @ POINT

0709-281-1112-2  
VAN THIEL, BENJAMIN  
HANNAH VAN THIEL  
3012 Monroe St

STA 29+85.88, LT 58.34'  
861.77 @ POINT

STA 29+88.95, LT 55.28'  
862.78 @ POINT

CHAPMAN  
STREET

21" RCP (2004)

12" RCP STM

21" RCP STM

15" RCP STM

21" RCP STM

12" RCP STM

8-IN DI (2004)

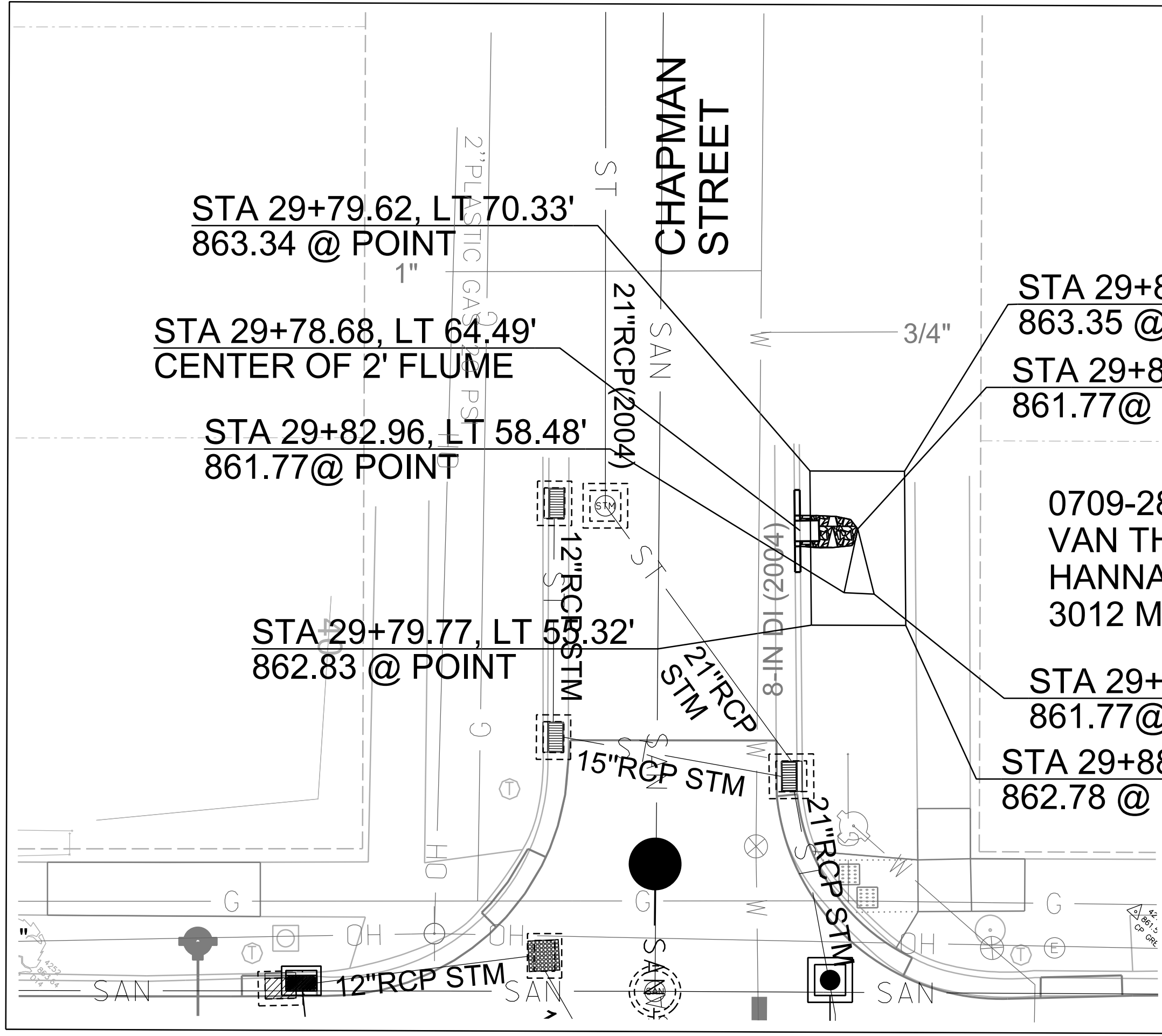
2" PLASTIC GAS

PLOT SCALE: 20

PLOT NAME: RG-1

REV. DATE:

ORIGINATOR: CITY OF MADISON, STREET'S DIVISION



NOTE: CONSTRUCT CROSS SECTION  
PER STANDARD BIORETENTION DETAIL

STA 47+28.95, LT 56.86'  
869.10 @ POINT

STA 47+17.93, LT 48.60'  
868.99 @ POINT

0709-281-0317-9  
KLINKE MONROE STREET LLC  
2500 Monroe St

STA 47+19.00, LT 35.92'  
867.27 @ POINT

STA 47+17.27, LT 34.35'  
867.77 @ POINT

STA 47+14.10, LT 31.87'  
868.48 @ POINT

6" PERFORATED UNDERDRAIN  
TIES INTO STRUCTURE @ 865.77

STA 47+35.01, LT 58.26'  
869.26 @ POINT

STA 47+28.22, LT 53.23'  
867.77 @ POINT

STA 47+33.45, LT 50.73'  
CENTER OF 2' FLUME

STA 47+25.08, LT 47.55'  
867.27 @ POINT

STA 47+26.70, LT 33.32'  
868.27 @ POINT

S-122A

RAIN GARDEN PROJECT NO. 10251	SHEET NO. RG-2
PLAN	
2500 MONROE ST	CITY OF MADISON





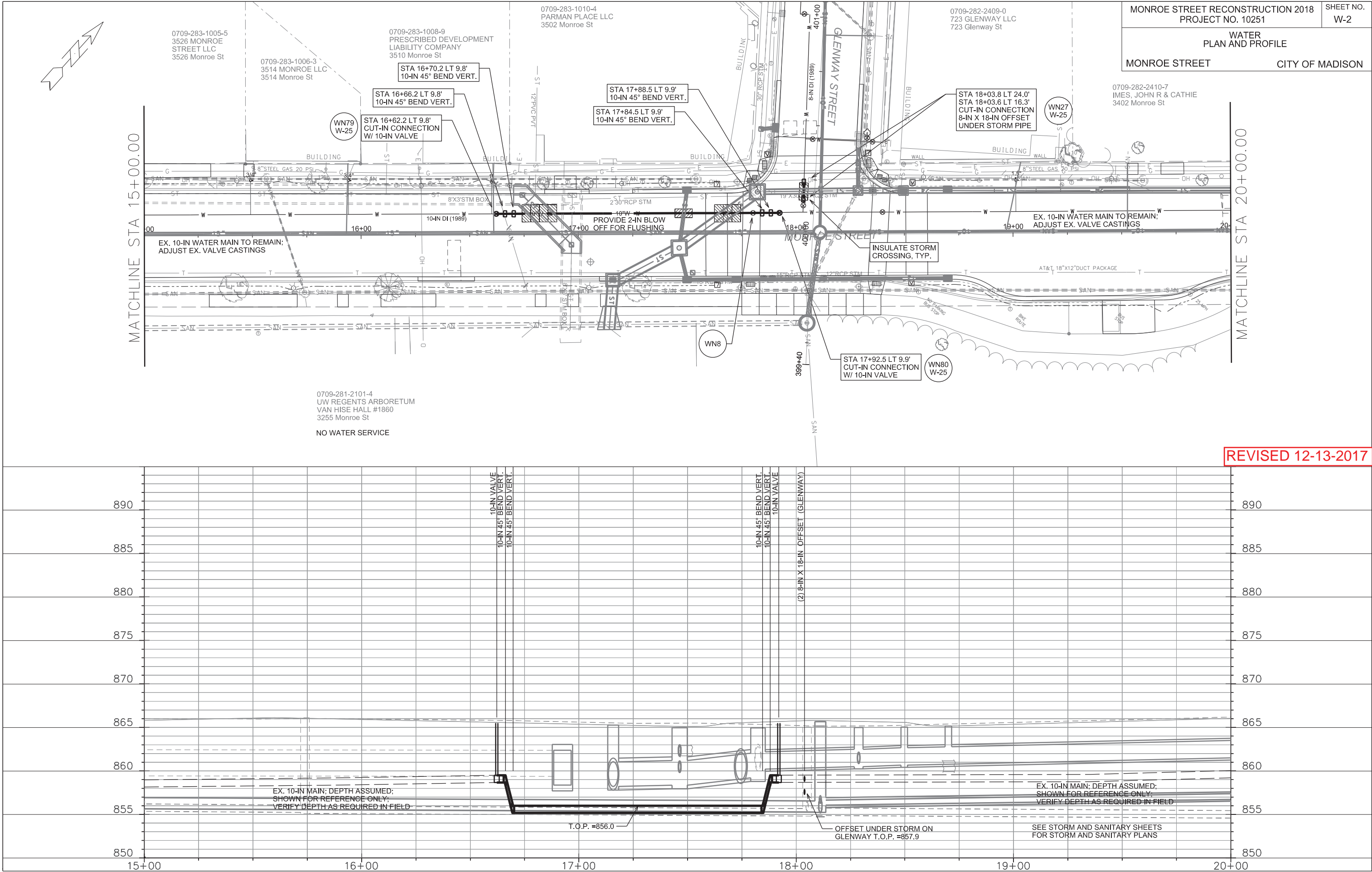


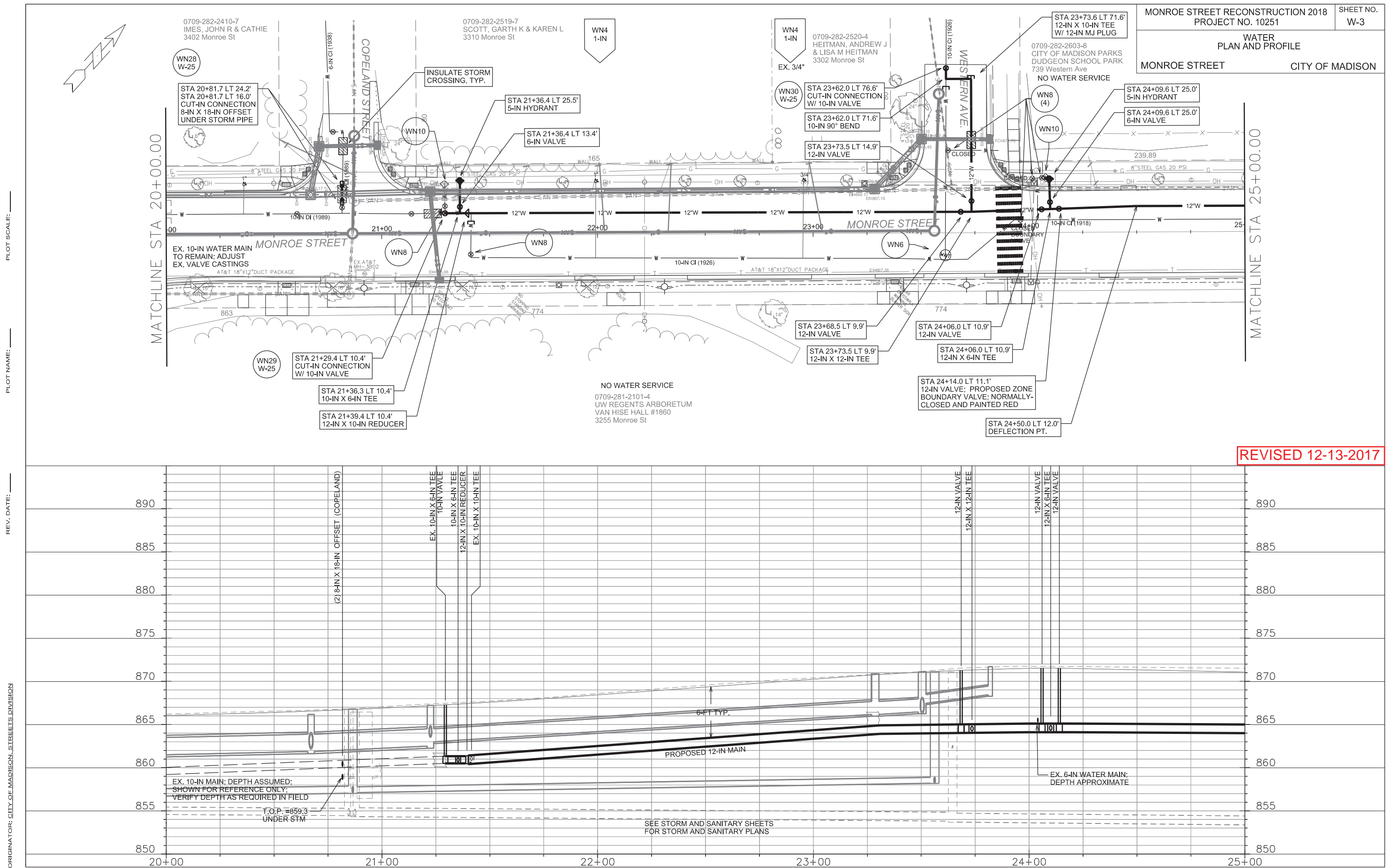
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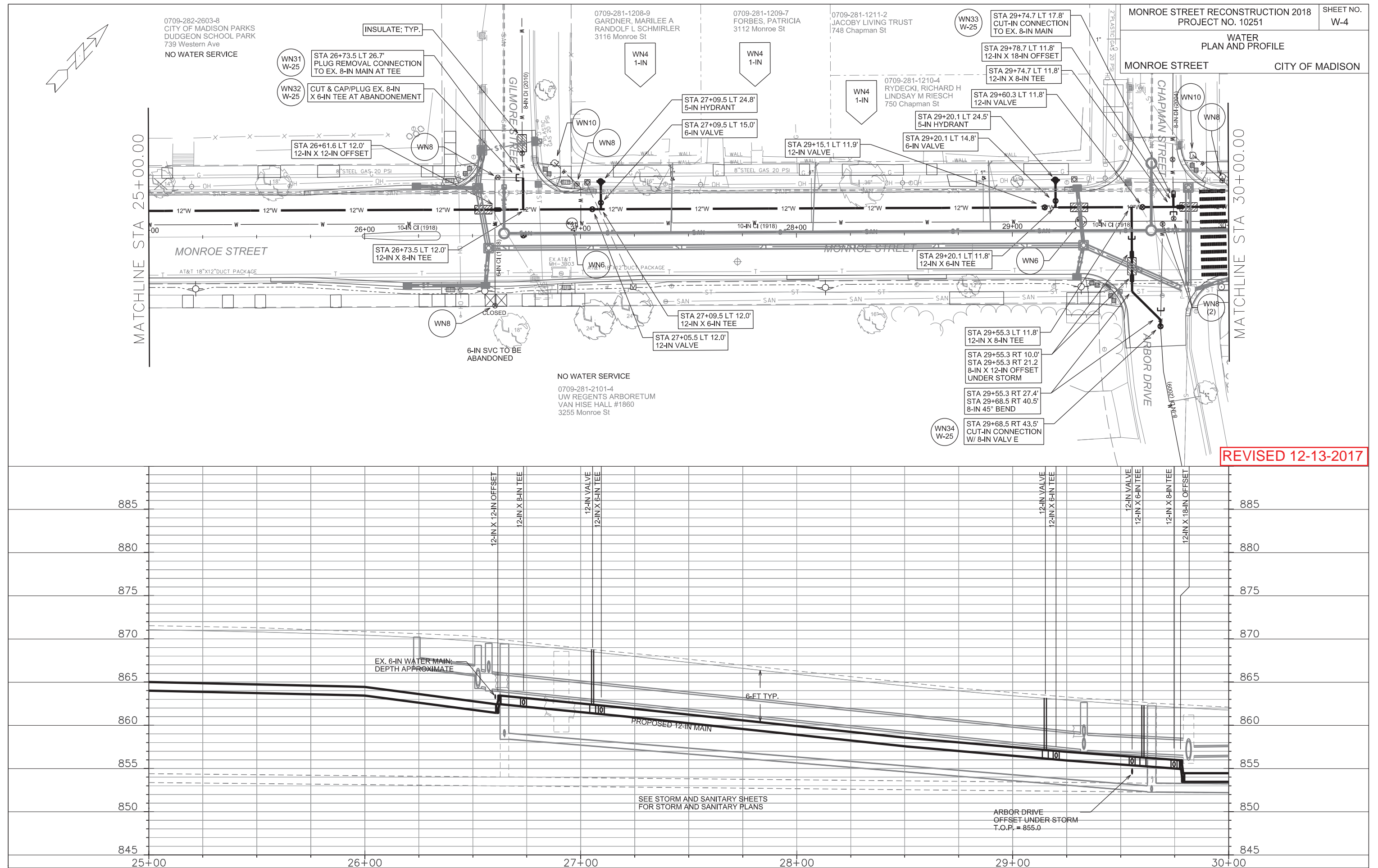
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REV. DATE: \_\_\_\_\_

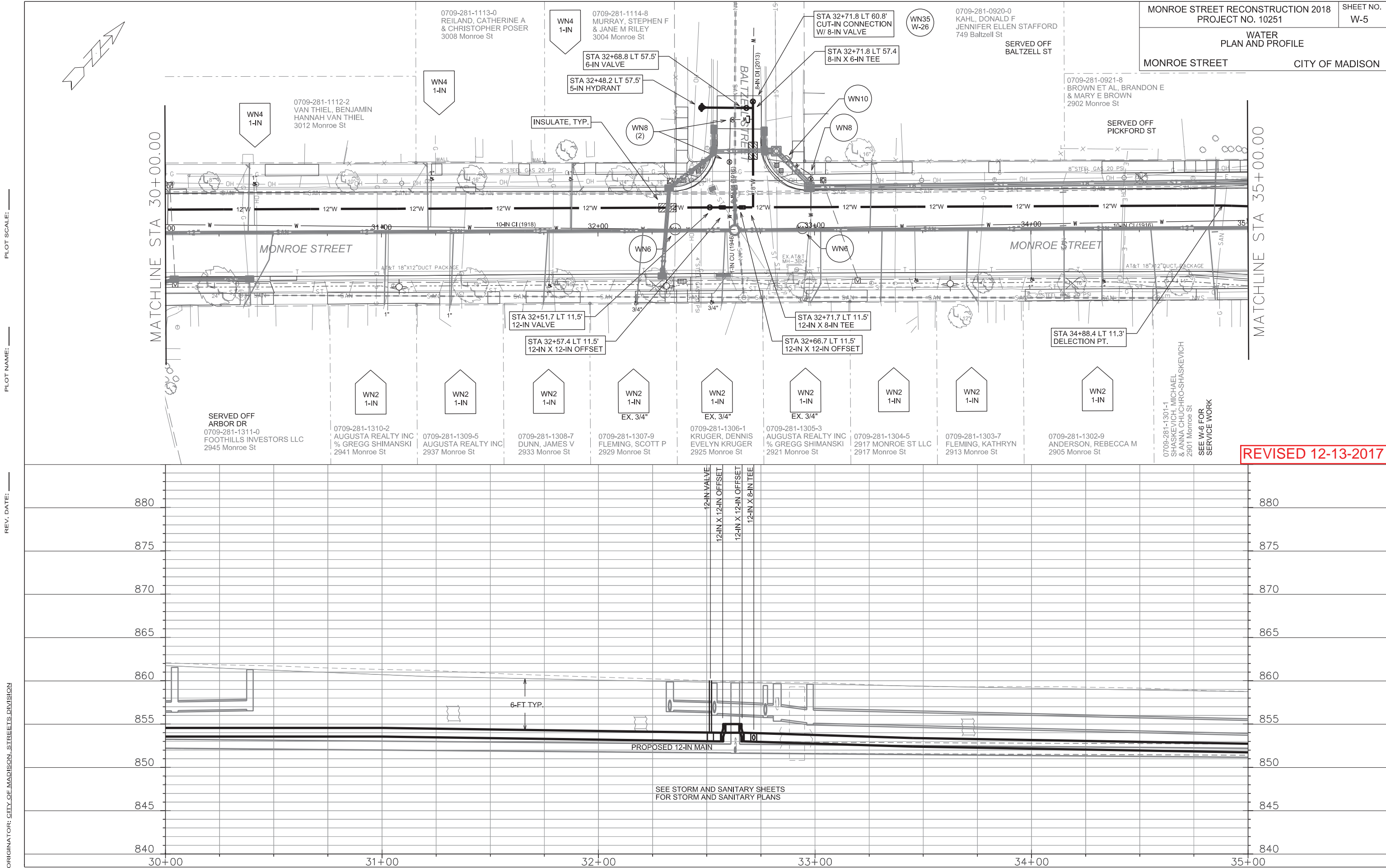
ORIGINATOR: CITY OF MADISON, STREETS DIVISION











REVISED 12-13-2017

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

REV. DATE: \_\_\_\_\_

PLOT NAME: \_\_\_\_\_

PLOT SCALE: \_\_\_\_\_

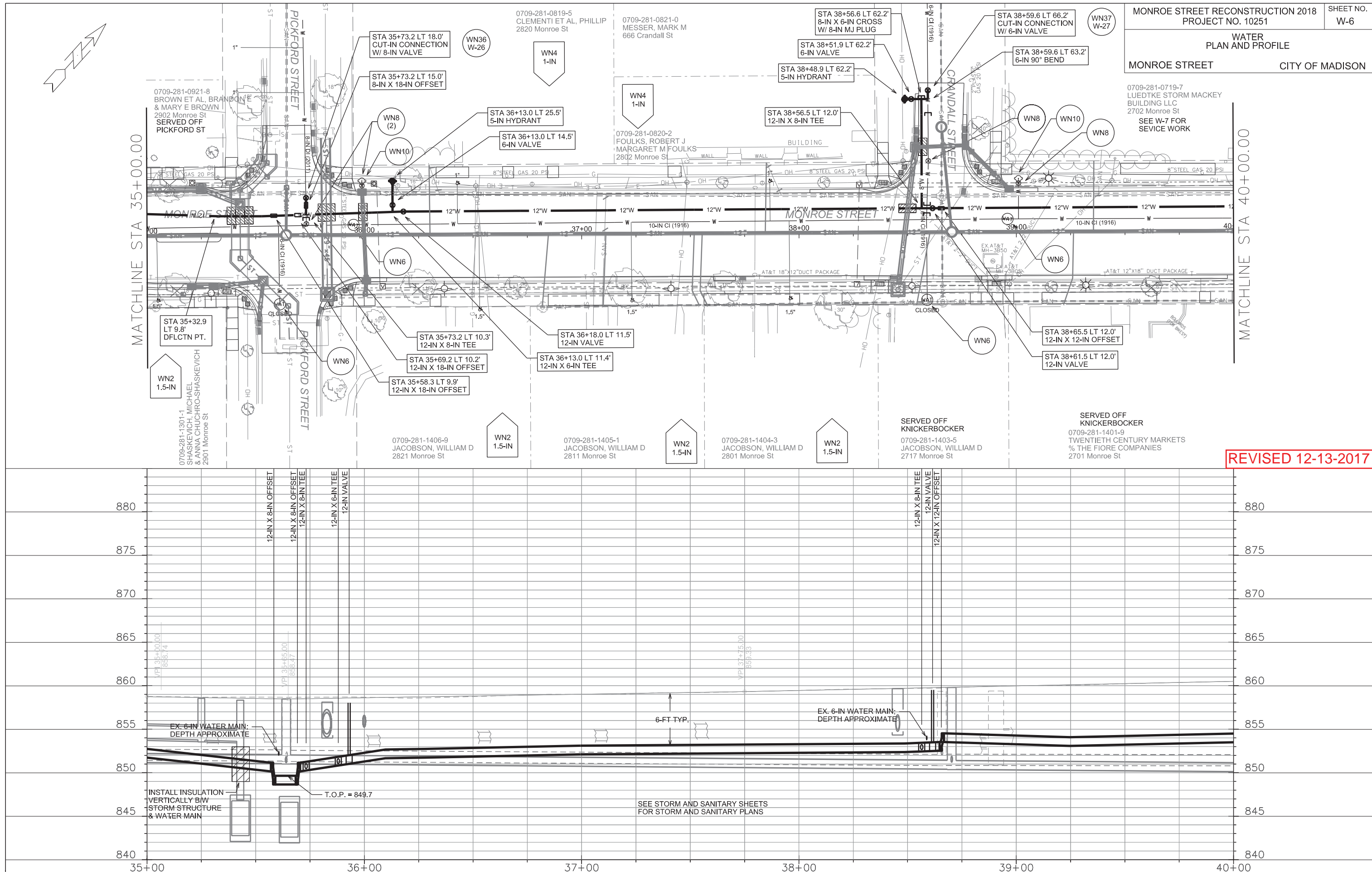


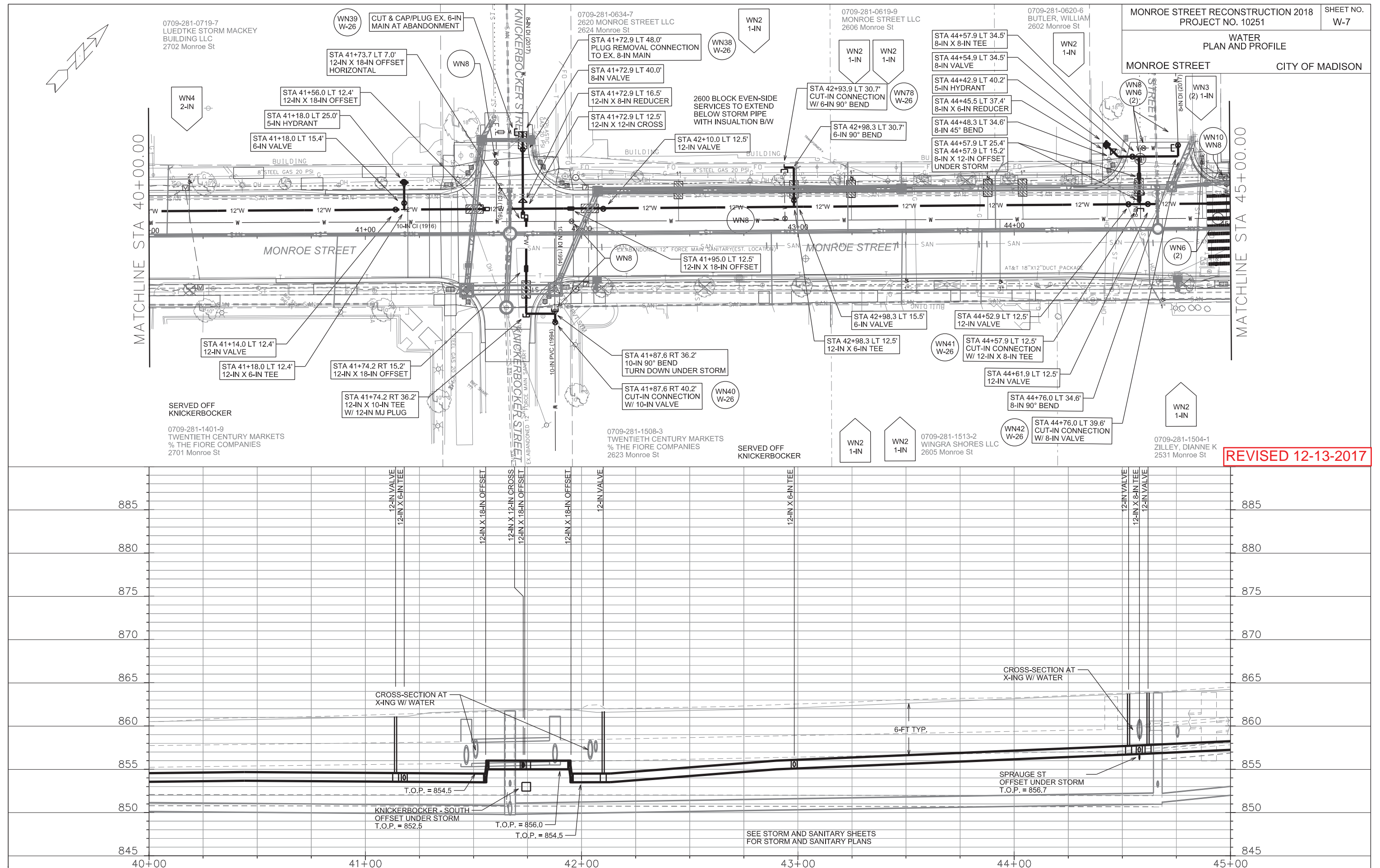
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PLOT NAME: \_\_\_\_\_

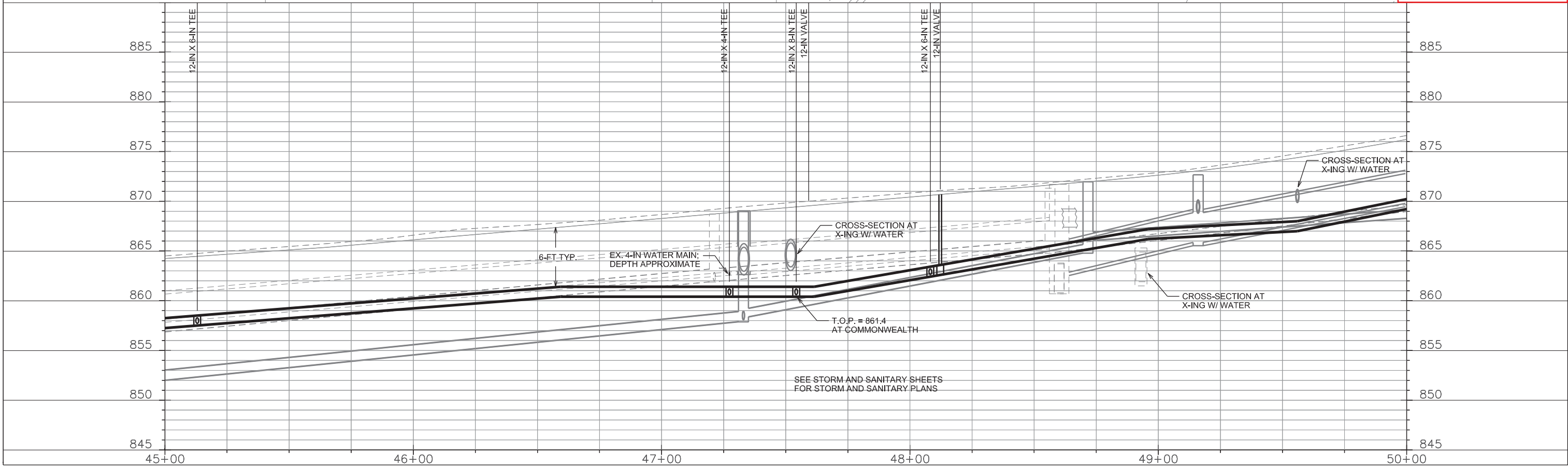
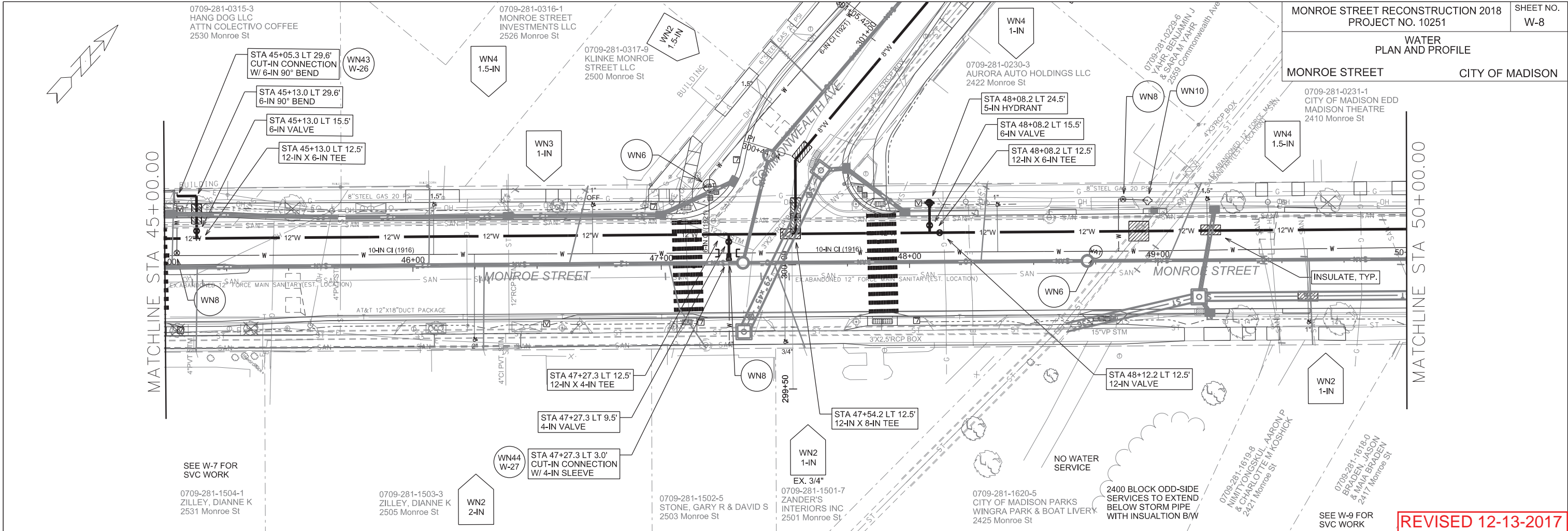
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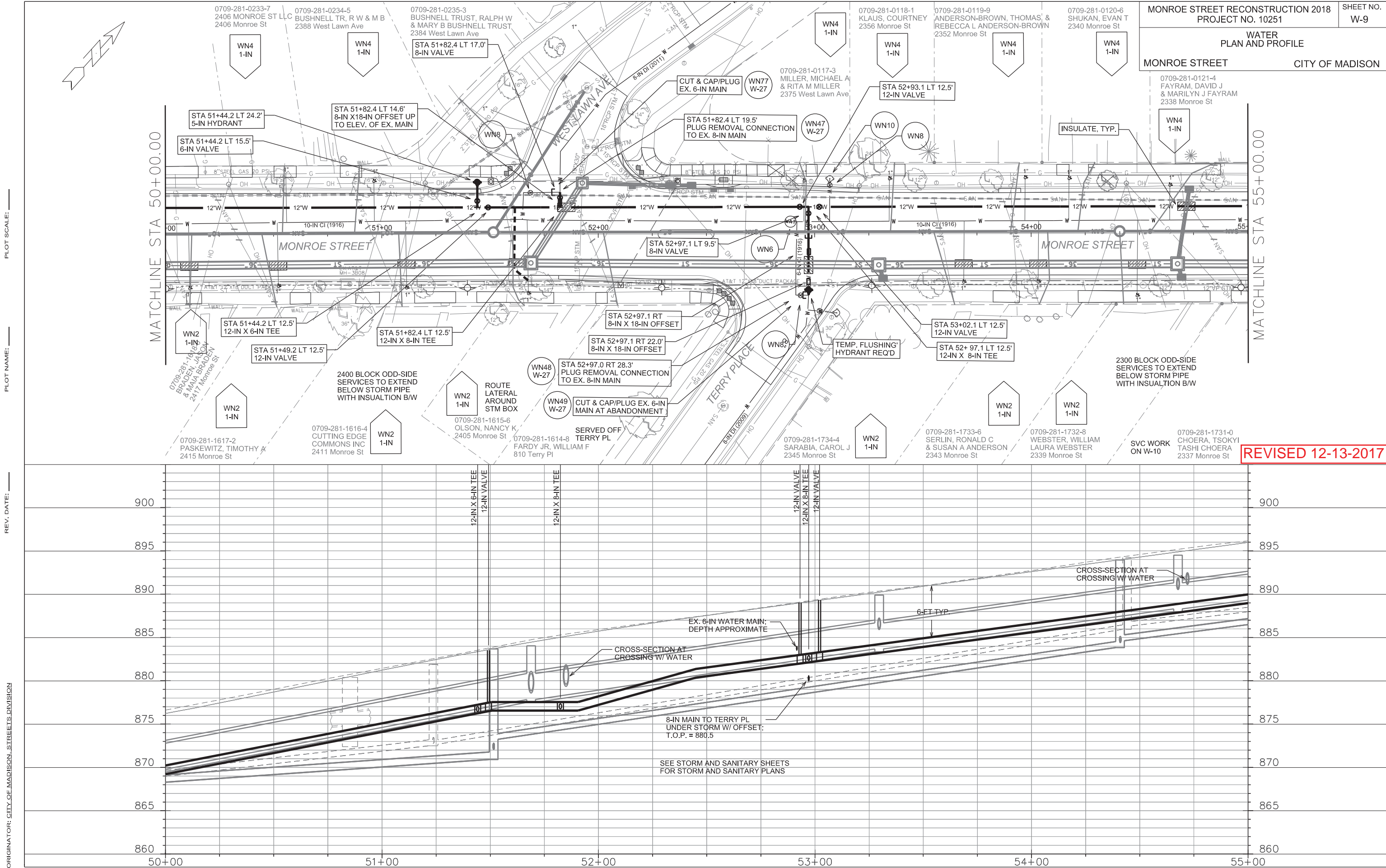
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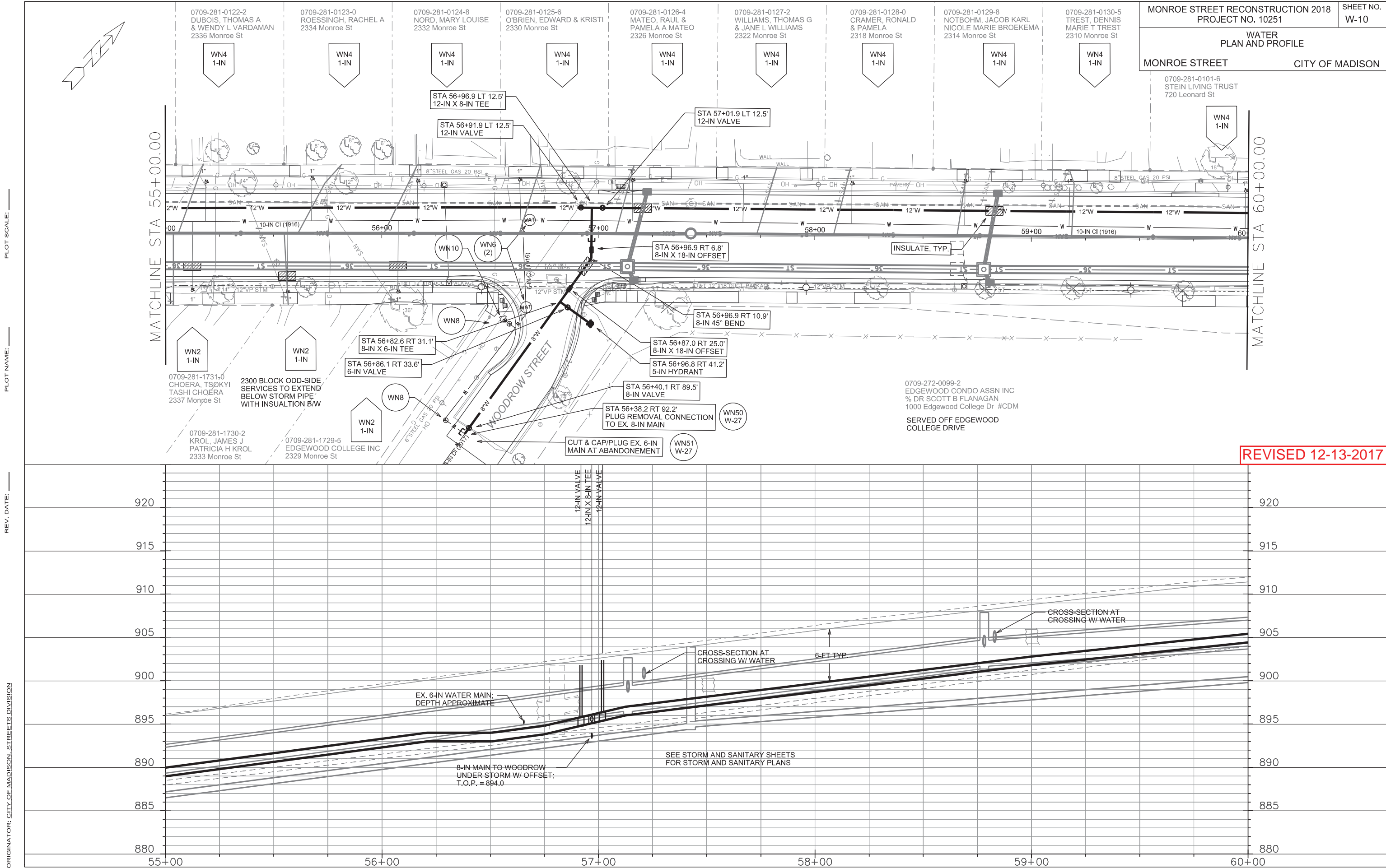
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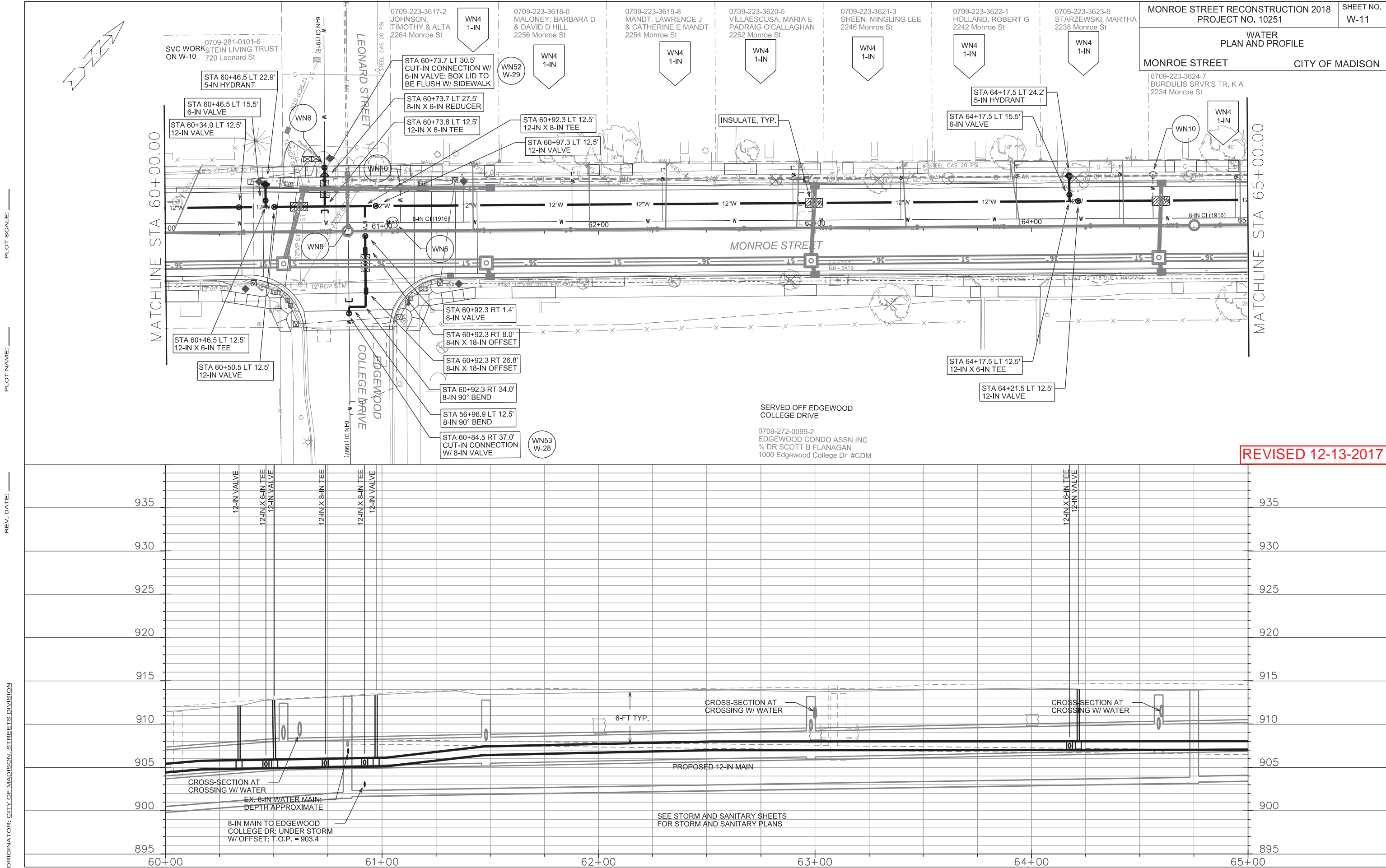
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REV. DATE: \_\_\_\_\_

ORIGINATOR: CITY OF MADISON, STREETS DIVISION





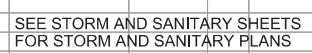


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PLOT NAME: \_\_\_\_\_

REV. DATE: \_\_\_\_\_

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



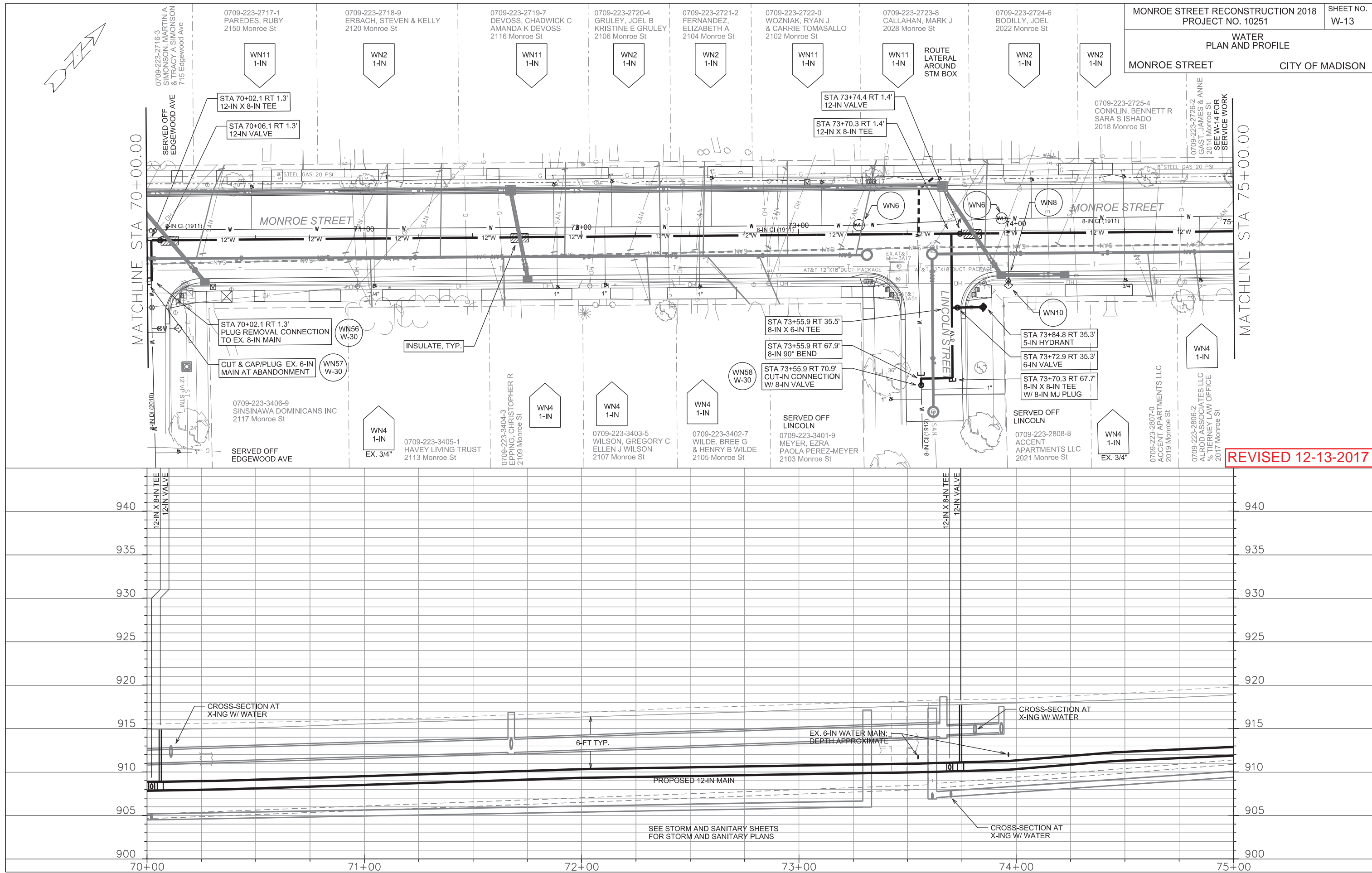


PLOT SCALE: \_\_\_\_\_

PLOT NAME: \_\_\_\_\_

REV. DATE: \_\_\_\_\_

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



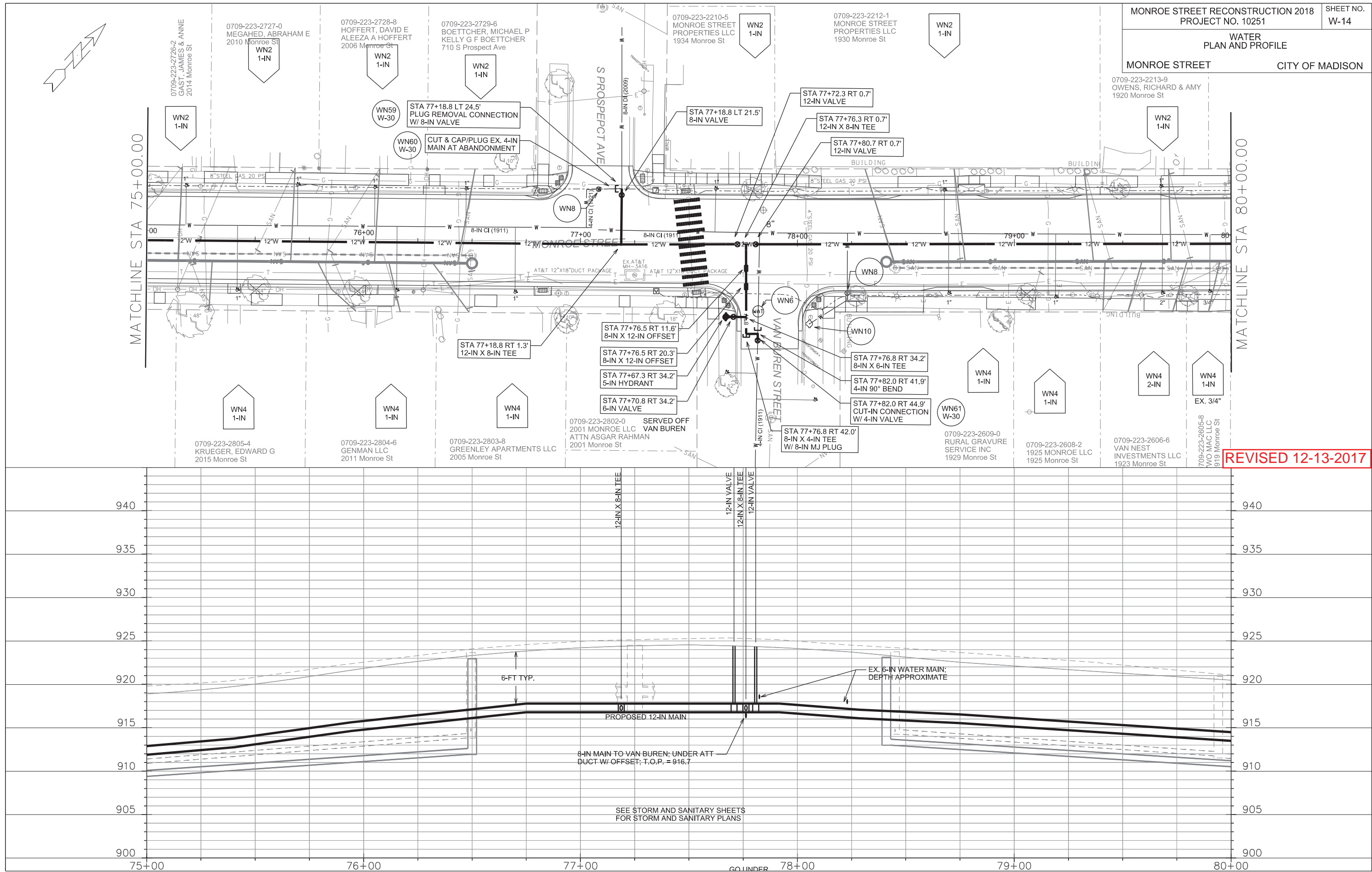


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PLOT NAME: \_\_\_\_\_

REV. DATE: \_\_\_\_\_

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

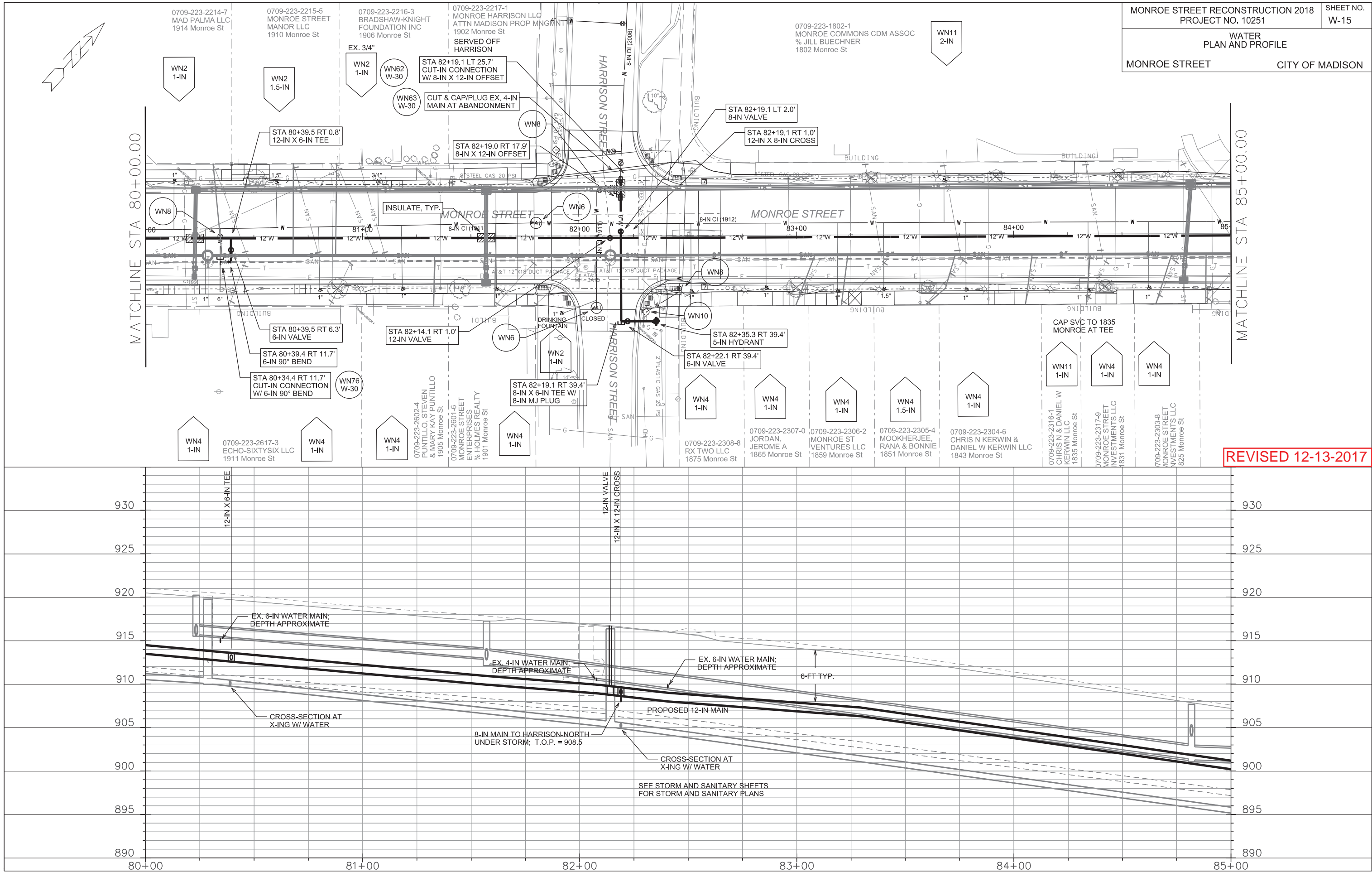


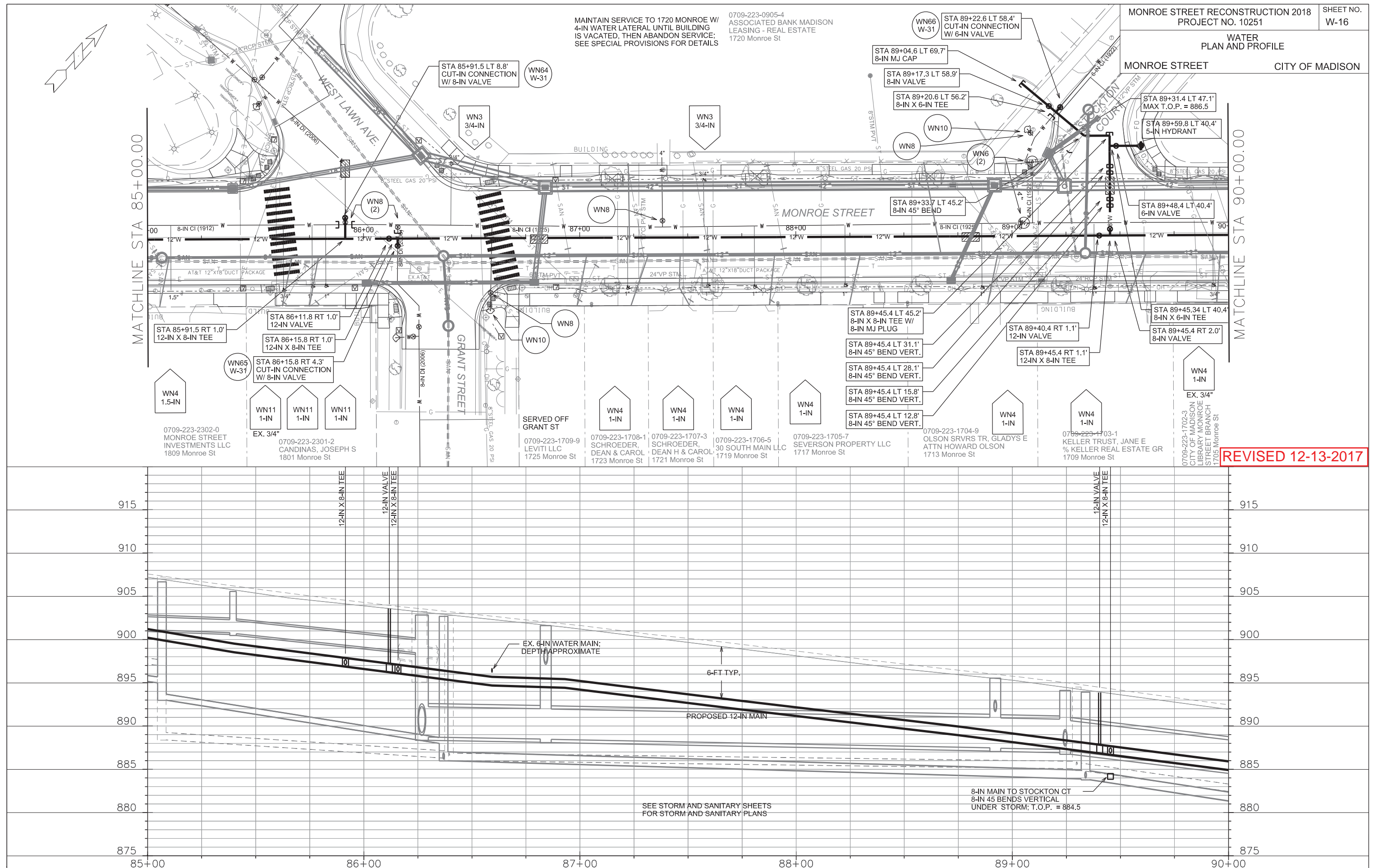
PLOT SCALE: \_\_\_\_\_

PLOT NAME: \_\_\_\_\_

REV. DATE: \_\_\_\_\_

ORIGINATOR: CITY OF MADISON, STREETS DIVISION





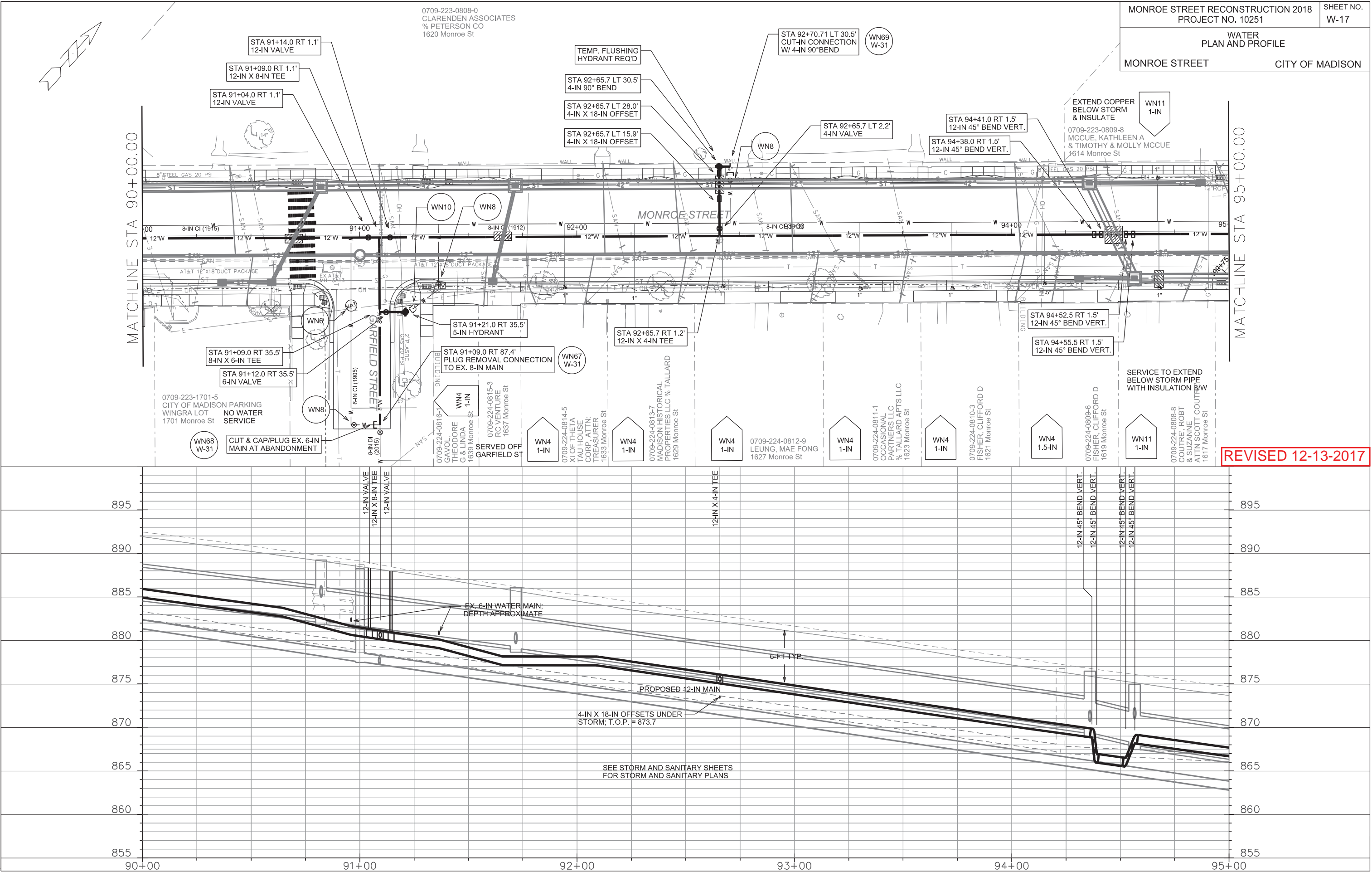


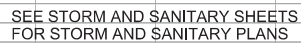
PLOT SCALE: \_\_\_\_\_

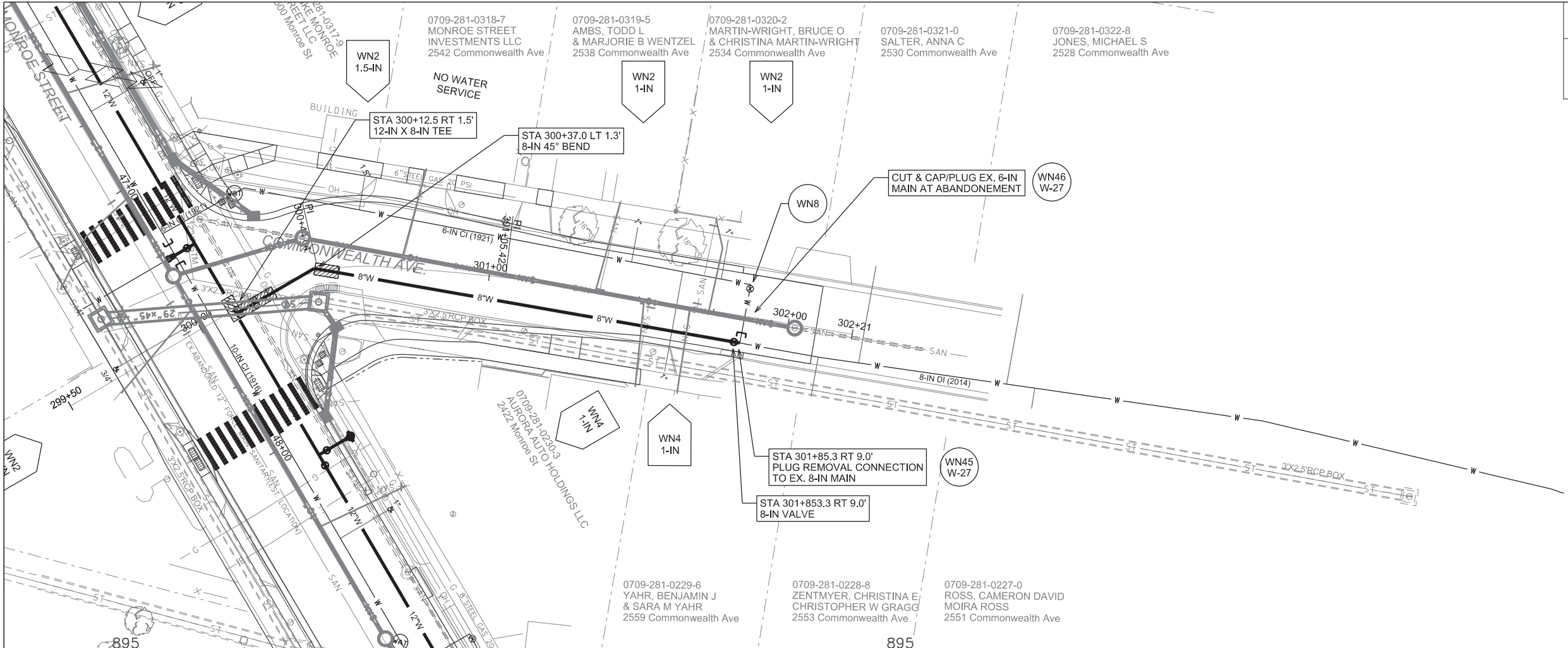
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REV. DATE: \_\_\_\_\_

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

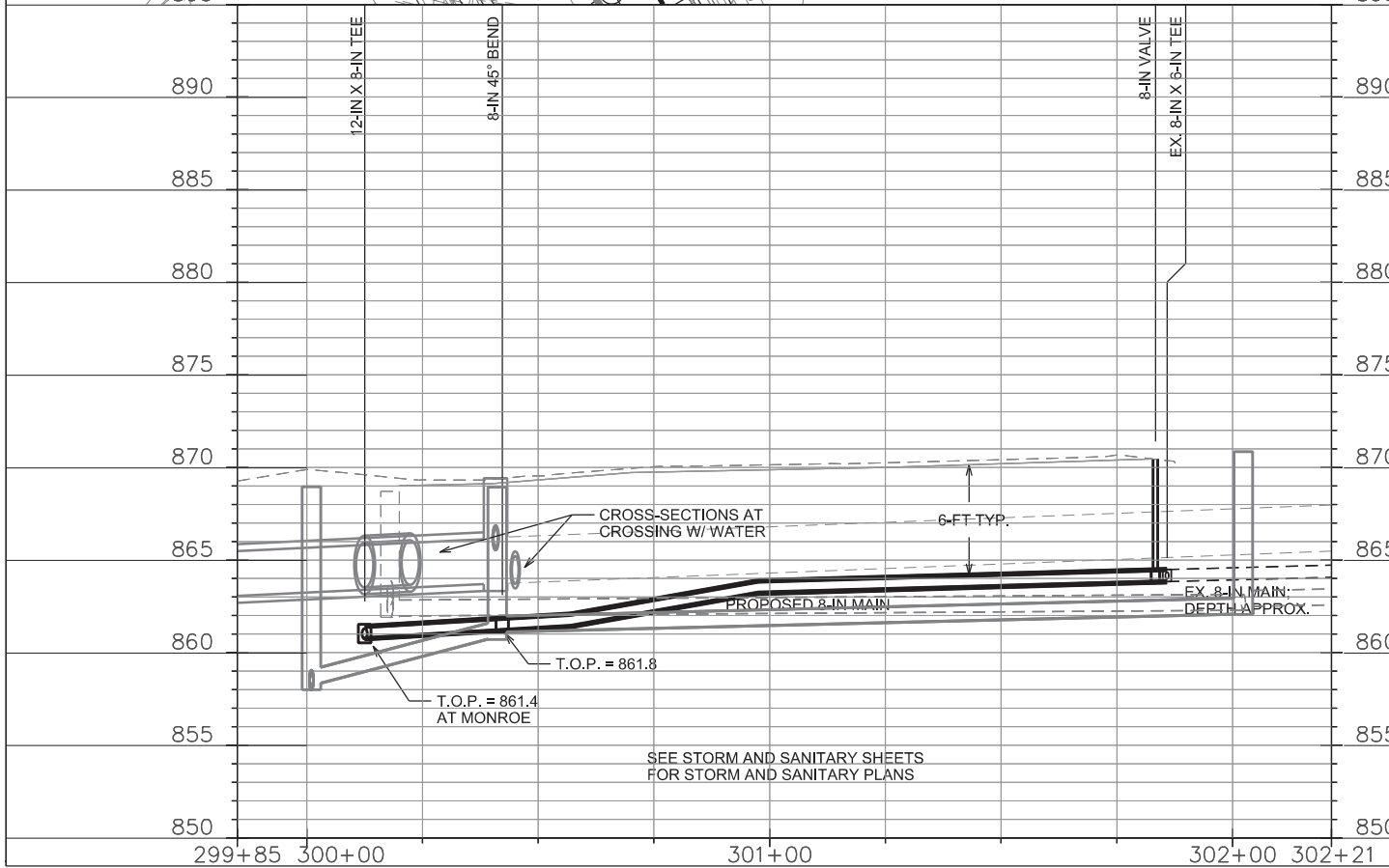




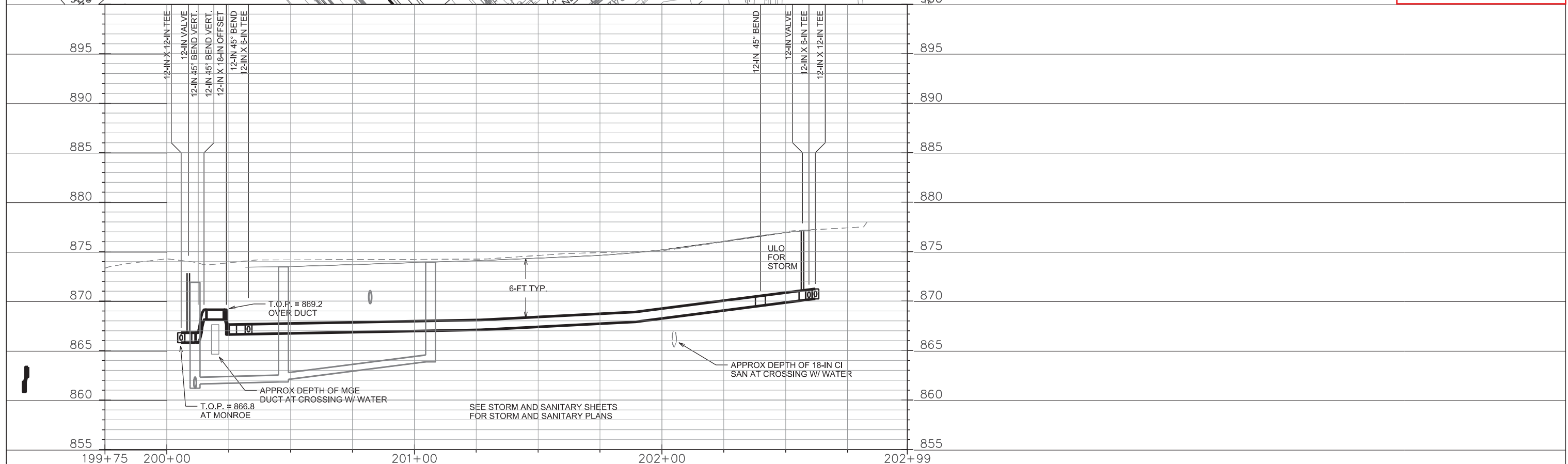
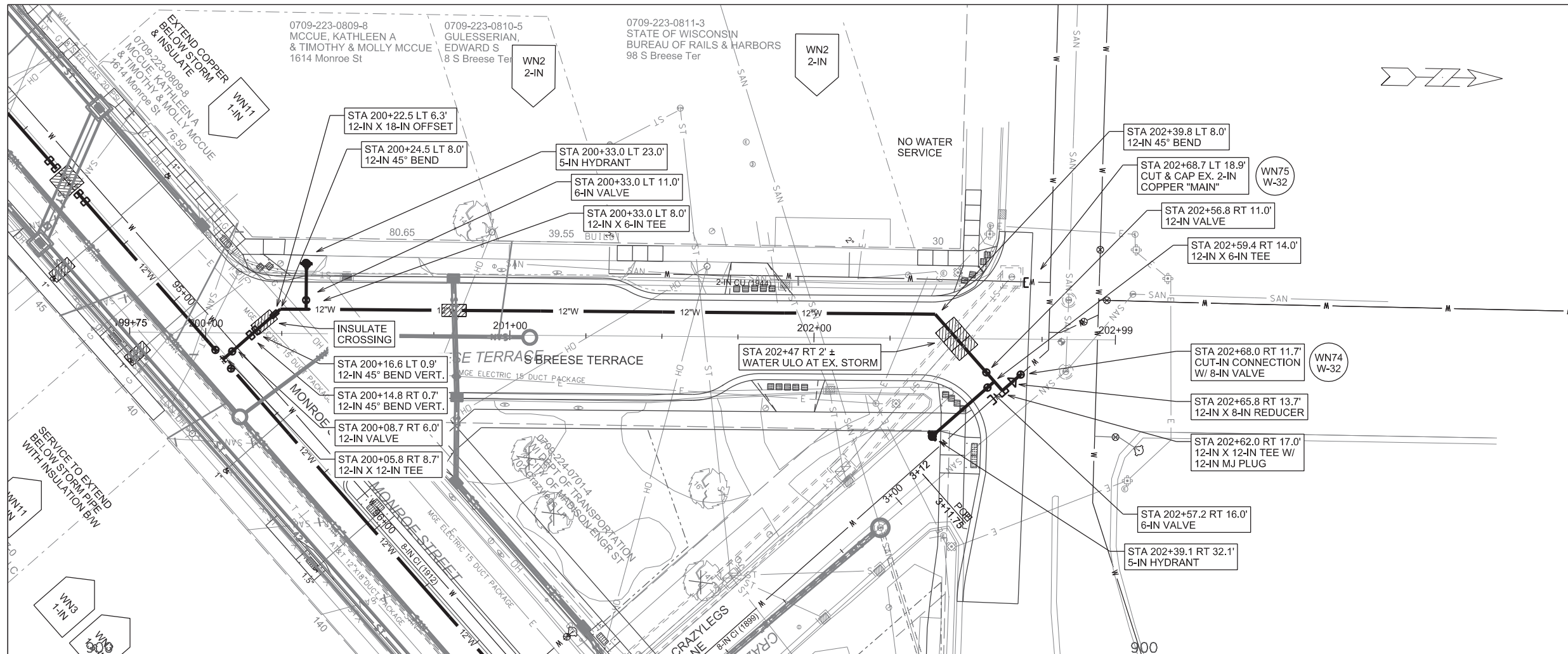


MONROE STREET RECONSTRUCTION 2018 PROJECT NO. 10251		SHEET NO. W-19
WATER PLAN AND PROFILE		
COMMONWEALTH STREET		CITY OF MADISON

REVISED 12-13-2017





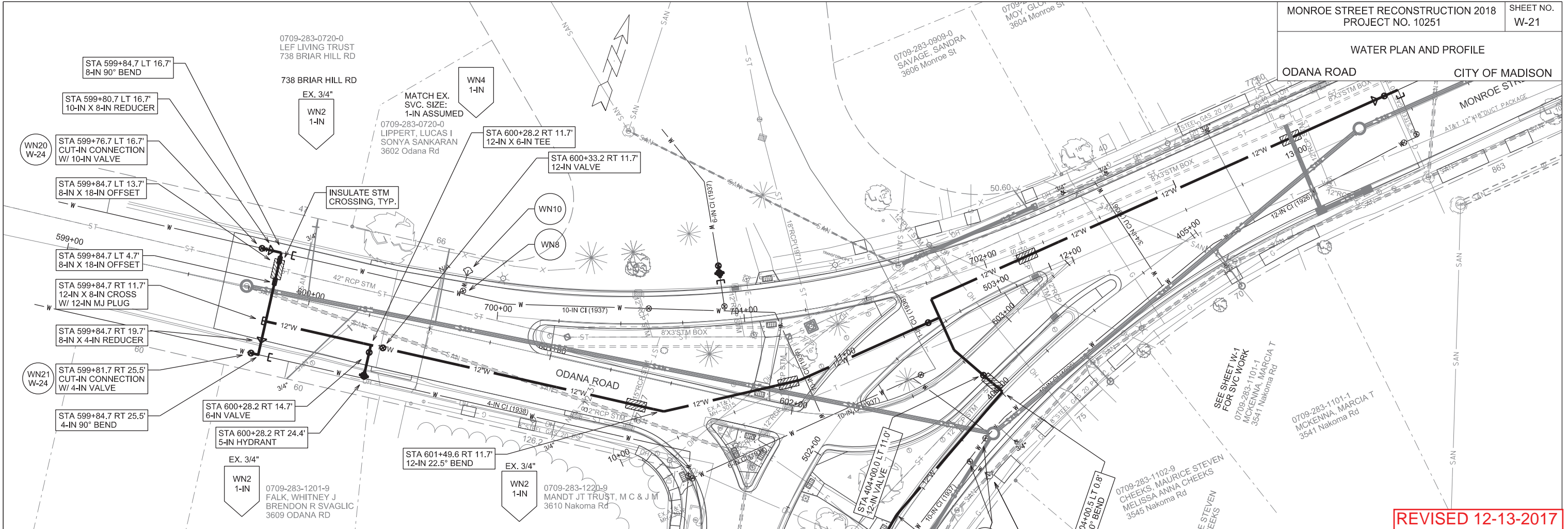




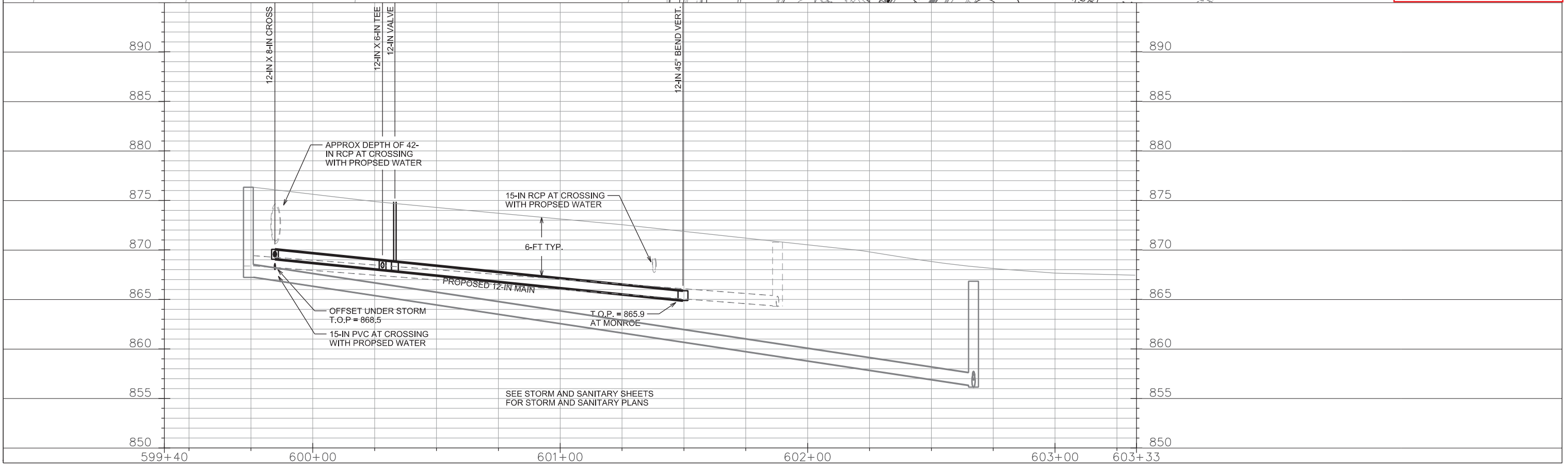
WATER PLAN AND PROFILE

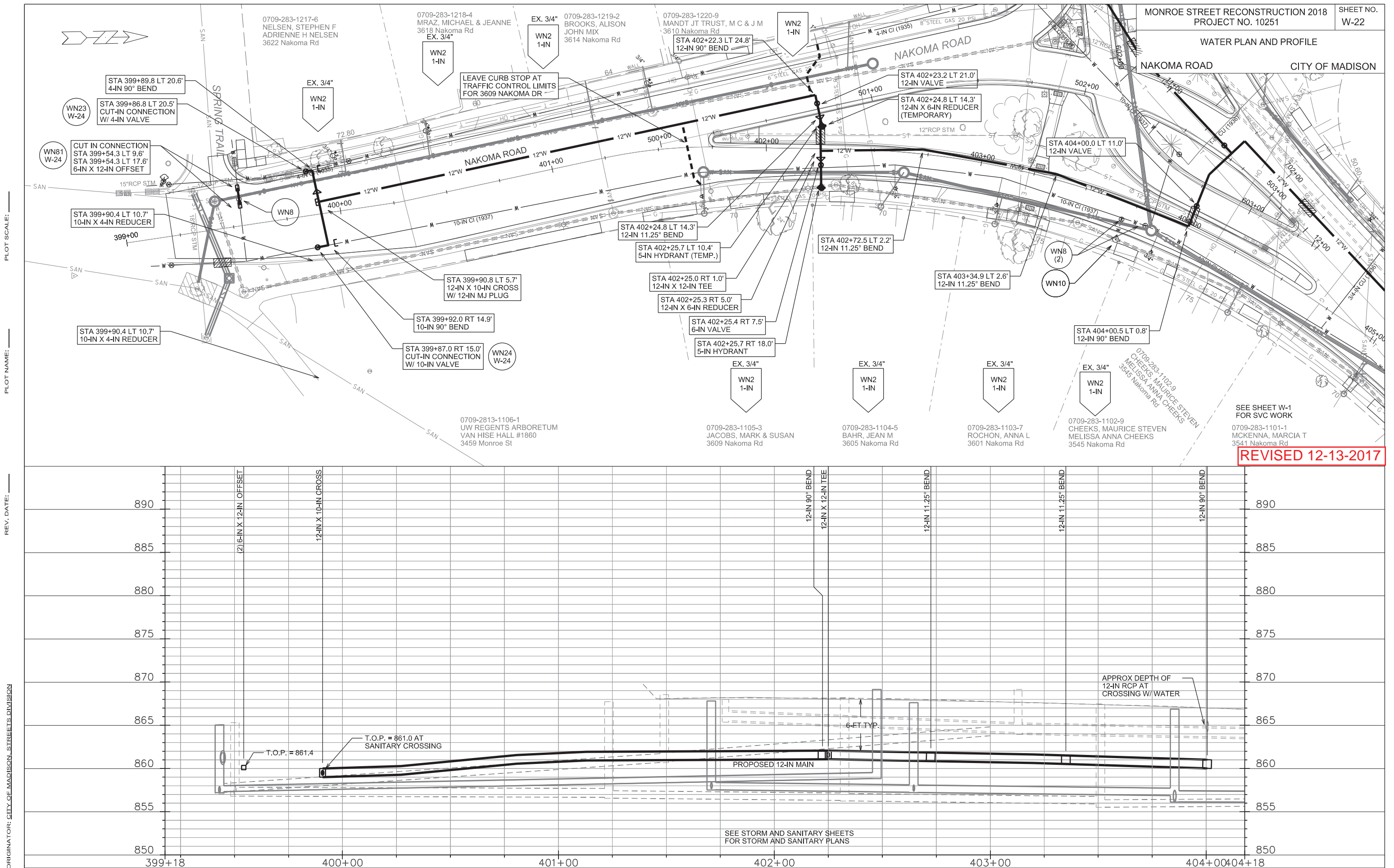
ODANA ROAD

CITY OF MADISON



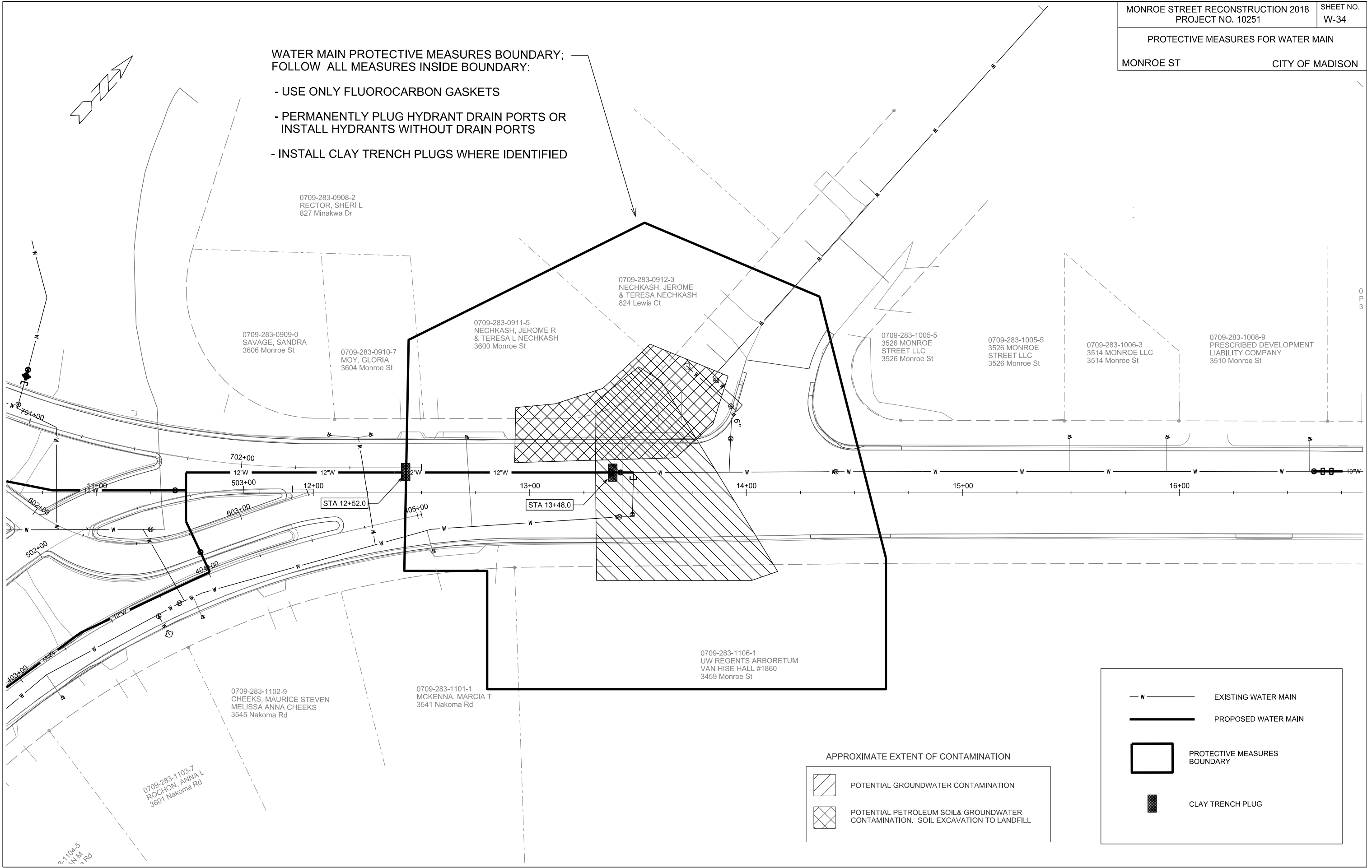
REVISED 12-13-2017





WATER MAIN PROTECTIVE MEASURES BOUNDARY;  
FOLLOW ALL MEASURES INSIDE BOUNDARY:

- USE ONLY FLUOROCARBON GASKETS
- PERMANENTLY PLUG HYDRANT DRAIN PORTS OR  
INSTALL HYDRANTS WITHOUT DRAIN PORTS
- INSTALL CLAY TRENCH PLUGS WHERE IDENTIFIED



APPROXIMATE EXTENT OF CONTAMINATION

POTENTIAL GROUNDWATER CONTAMINATION

POTENTIAL PETROLEUM SOIL & GROUNDWATER  
CONTAMINATION. SOIL EXCAVATION TO LANDFILL

— W —

EXISTING WATER MAIN

—

PROPOSED WATER MAIN

PROTECTIVE MEASURES  
BOUNDARY

CLAY TRENCH PLUG

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

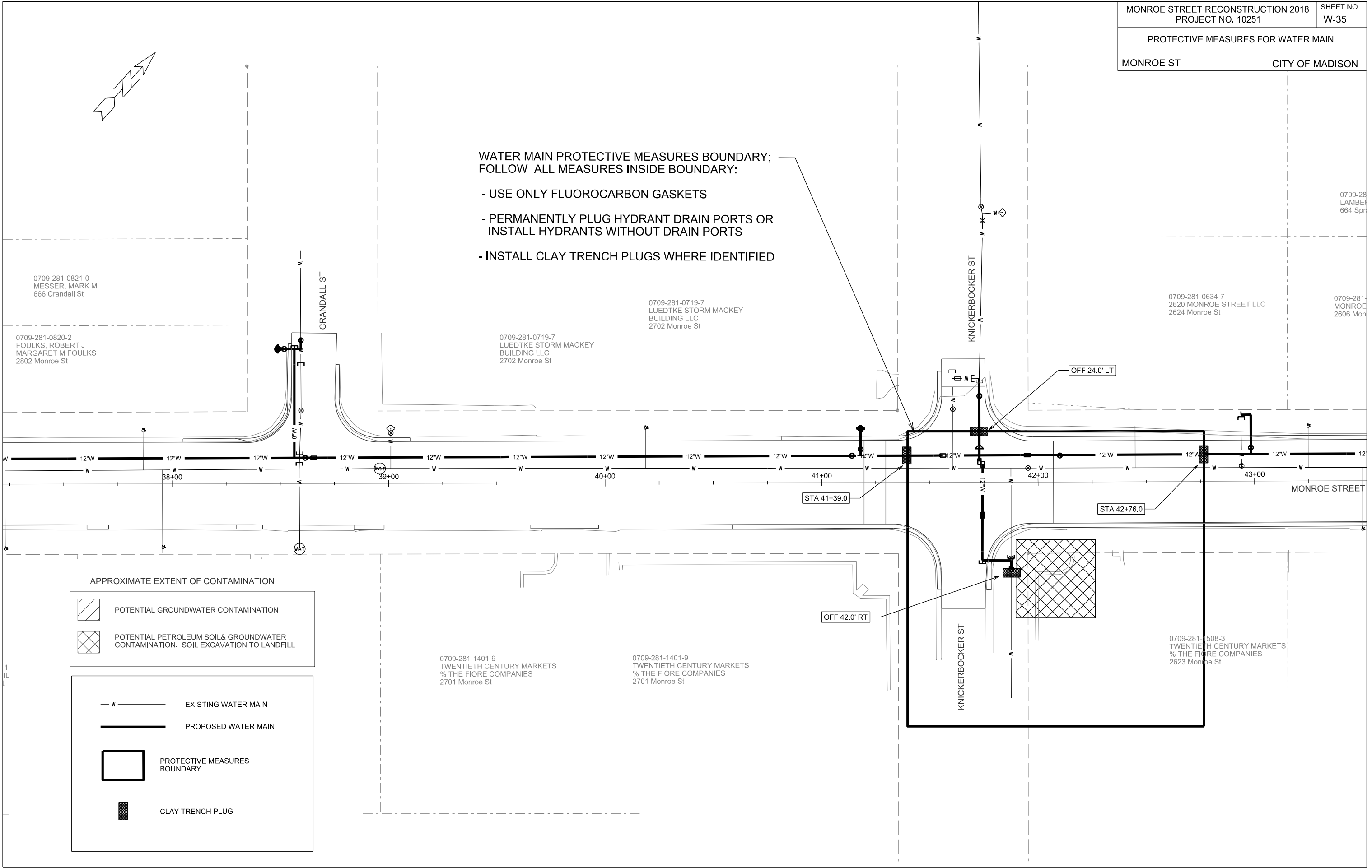
REV. DATE: \_\_\_\_\_

PLOT NAME: \_\_\_\_\_

PLOT SCALE: \_\_\_\_\_

WATER MAIN PROTECTIVE MEASURES BOUNDARY;  
FOLLOW ALL MEASURES INSIDE BOUNDARY:

- USE ONLY FLUOROCARBON GASKETS
- PERMANENTLY PLUG HYDRANT DRAIN PORTS OR  
INSTALL HYDRANTS WITHOUT DRAIN PORTS
- INSTALL CLAY TRENCH PLUGS WHERE IDENTIFIED



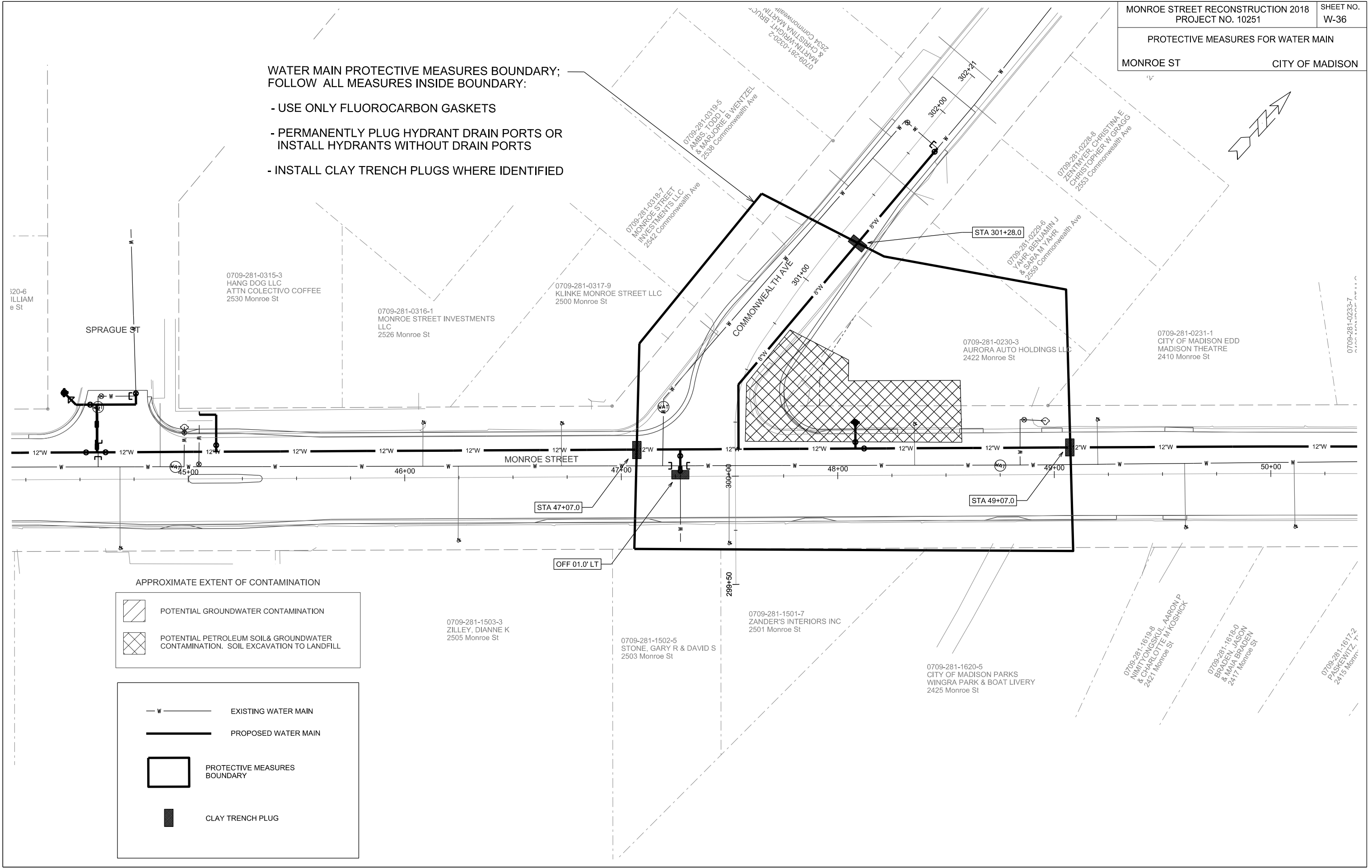
APPROXIMATE EXTENT OF CONTAMINATION

- POTENTIAL GROUNDWATER CONTAMINATION
- POTENTIAL PETROLEUM SOIL & GROUNDWATER CONTAMINATION. SOIL EXCAVATION TO LANDFILL

- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- PROTECTIVE MEASURES BOUNDARY
- CLAY TRENCH PLUG



- WATER MAIN PROTECTIVE MEASURES BOUNDARY;  
FOLLOW ALL MEASURES INSIDE BOUNDARY:
- USE ONLY FLUOROCARBON GASKETS
  - PERMANENTLY PLUG HYDRANT DRAIN PORTS OR  
INSTALL HYDRANTS WITHOUT DRAIN PORTS
  - INSTALL CLAY TRENCH PLUGS WHERE IDENTIFIED



APPROXIMATE EXTENT OF CONTAMINATION

POTENTIAL GROUNDWATER CONTAMINATION

POTENTIAL PETROLEUM SOIL & GROUNDWATER CONTAMINATION. SOIL EXCAVATION TO LANDFILL

— W —

EXISTING WATER MAIN

—

PROPOSED WATER MAIN

PROTECTIVE MEASURES BOUNDARY

CLAY TRENCH PLUG

PLOT SCALE: \_\_\_\_\_

PLOT NAME: \_\_\_\_\_

REV. DATE: \_\_\_\_\_

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.

GENERAL ELECTRIC NOTES

1.ALL LOCATIONS ARE APPROXIMATE. THE TRAFFIC ENGINEER SHALL APPROVE FINAL LOCATIONS, INCLUDING SETBACK, IN THE FIELD. AFTER CONTRACTOR SURVEYS STAKING, THE CONTRACTOR SHALL NOTIFY GRETCHEN AVILES PINEIRO (266-4899) CITY TRAFFIC ENGINEERING, AT LEAST 24-HOURS IN ADVANCE OF NEEDING BASE LOCATIONS MARKED.

2.BASES INSTALLED IN TERRACE SHALL BE 4' FROM FACE OF CURB UNLESS OTHERWISE NOTED. SUBJECT TO NOTE 1 ABOVE.

3.THE CONTRACTOR SHALL DO ALL WORK IN ACCORDANCE WITH "CITY OF MADISON STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2017 EDITION"AND ALL ADDENDUMS THERETO. ALL CONDUITS SHALL BE PVC, SCHEDULE 80 UNDER PAVEMENT OR SCHEDULE 40 OTHERWISE.

4.THE CONTRACTOR SHALL CALL TROY VANT (395-1975) AT THE TRAFFIC ENGINEERING SHOP AT LEAST 24-HOURS IN ADVANCE OF POURING BASES OR BURYING CONDUIT TO ARRANGE FOR INSPECTION. ANY WORK COMPLETED WITHOUT INSPECTION IS SUBJECT TO REJECTION.

5.THE CONTRACTOR SHALL ARRANGE FOR PICKUP OF THE FOLLOWING CITY FURNISHED MATERIALS, WHICH SHOULD BE ARRANGED FOR PICKUP BY CALLING DENNIS ROWE, TRAFFIC ENGINEERING SHOP, 266-9034, 1120 SAYLE ST, AT LEAST 24-HOURS PRIOR TO NEEDING MATERIALS:

- |            |   |
|------------|---|
| 3/4"X19"   | ANCHOR BOLTS: 17 SETS OF 4 FOR TYPE G BASES |
| 3/4"X24"   | ANCHOR BOLTS: 58 SETS OF 4 FOR LB-1 BASES   |
| 1"X40"     | ANCHOR BOLTS: 58 SETS OF 4 FOR LB-3 BASES   |
| 1-1/4"X48" | ANCHOR BOLTS: 19 SETS OF 4 FOR LB-8 BASES   |
| 1-1/4"X60" | ANCHOR BOLTS: 3 SETS OF 4 FOR OFFSET BASES  |
| 1"X60"     | ANCHOR BOLTS: 4 SETS OF 4 FOR OFFSET BASES  |
| 3/4"X60"   | ANCHOR BOLTS: 13 SETS OF 4 FOR OFFSET BASES |

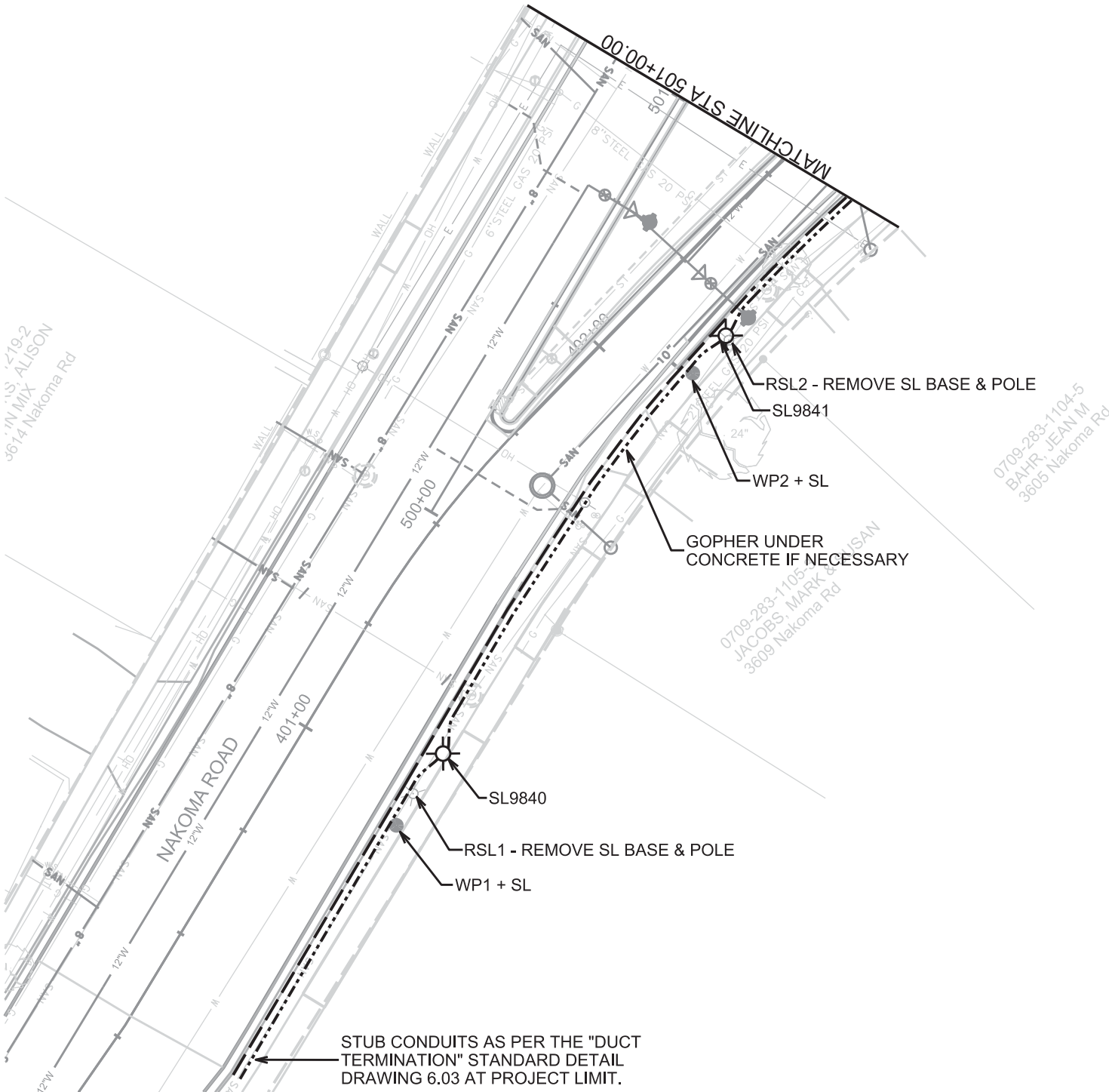
6.THE CONTRACTOR SHALL INSTALL LOOP LEED DUCT CONDUITS (PER S.D.D. 6.04) PRIOR TO CITY CREWS INSTALLING LOOP DETECTOR WIRES.

7.NOTIFY TOM BODENSTEIN (266-4767) A MINIMUM OF 24 HOURS AND MAXIMUM OF 48 HOURS PRIOR TO FINAL BASE COURSE COMPACTION AND TRIMMING FOR CITY CREWS TO INSTALL LOOP DETECTION WIRES IN THE BASE COURSE PRIOR TO PLACEMENT OF ASPHALTIC PAVEMENT.

LEGEND

- |  |                      |
|--|----------------------|
|  | HANDHOLE TYPE 1      |
|  | HANDHOLE TYPE 3      |
|  | HANDHOLE TYPE 5      |
|  | HANDHOLE TYPE 7      |
|  | LB-1 BASE PED LIGHT  |
|  | LB-3 BASE TALL LIGHT |
|  | LB-8 BASE            |
|  | PARKING METER BASE   |

- |  |                      |
|--|----------------------|
|  | G-BASE               |
|  | TEMP WOOD POLE       |
|  | EXISTING CONDUIT     |
|  | EXISTING FIBER OPTIC |
|  | (1) - 2" CONDUIT     |
|  | (1) - 3" CONDUIT     |
|  | TYPE M or P BASE     |
|  | OUTLET LOCATION      |
|  | LOOPS BY OTHERS      |



SCALE 1" = 30'

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.

SCALE 1" = 30'

MONROE STREET RECONSTRUCTION 2018  
PROJECT NO. 10251

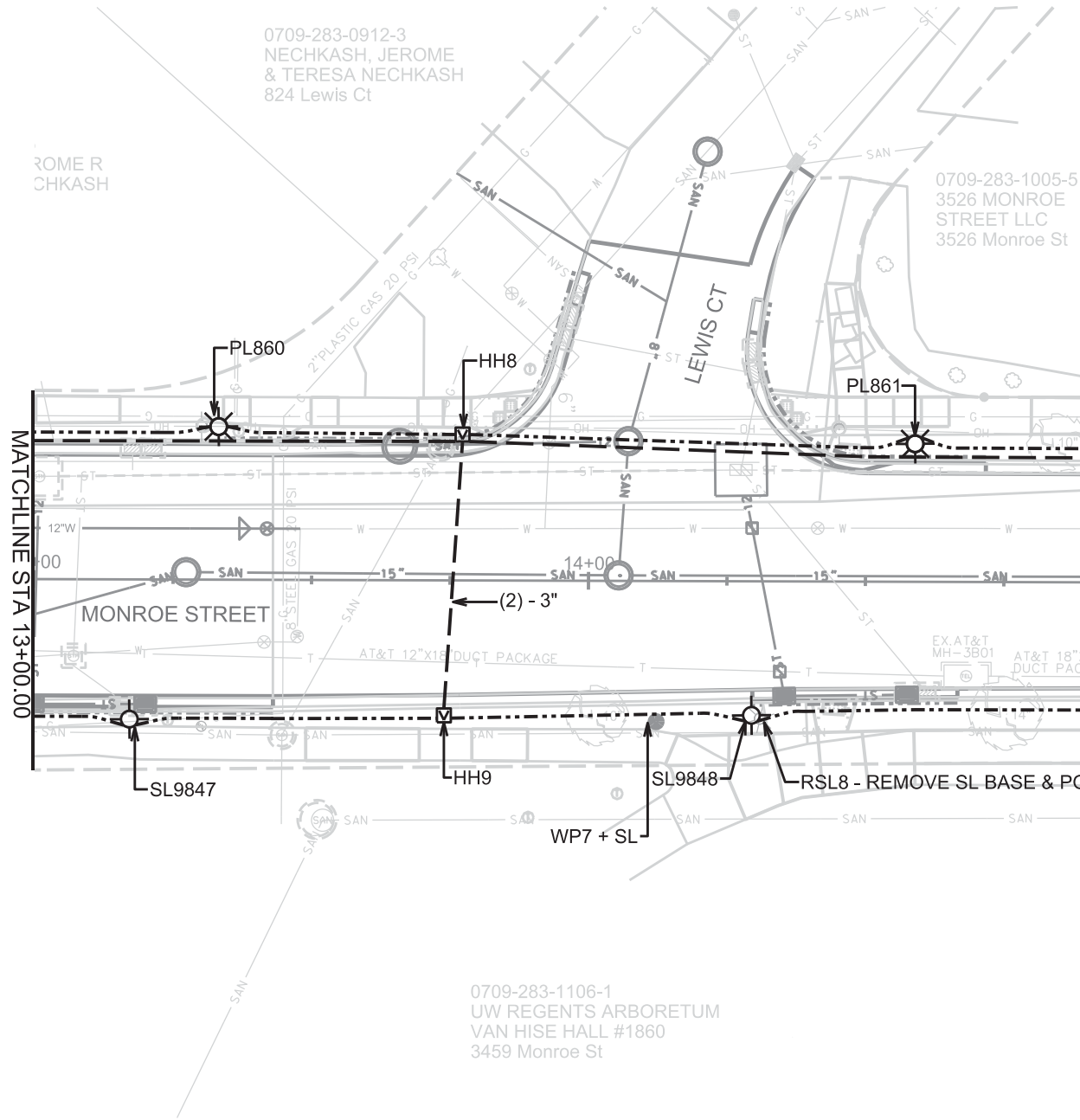
SHEET NO.  
E-3






















ELECTRICAL PLAN  
SIGNALS & STREETLIGHTS

MONROE STREET  
REV 12/12/2017 GMAP

CITY OF MADISON

0709-283-1010-4  
PARMAN PLACE LLC  
3502 Monroe St



LEGEND			
	HANDHOLE TYPE 1		G-BASE
	HANDHOLE TYPE 3		TEMP WOOD POLE
	HANDHOLE TYPE 5		APPROXIMATE LOCATION
	HANDHOLE TYPE 7		EXISTING CONDUIT
	LB-1 BASE PED LIGHT		EXISTING FIBER OPTIC
	LB-3 BASE TALL LIGHT		(1) - 2" CONDUIT
	LB-8 BASE		UNLESS NOTED AS OTHER
	PARKING METER BASE		(1) - 3" CONDUIT
			UNLESS NOTED AS OTHER
			TYPE M or P BASE
			OUTLET LOCATION
			APPROXIMATE LOCATION
			LOOPS BY OTHERS

FILE NAME: \$\$....designfile....\$\$

DATE: \$\$...plottingdate...\$\$



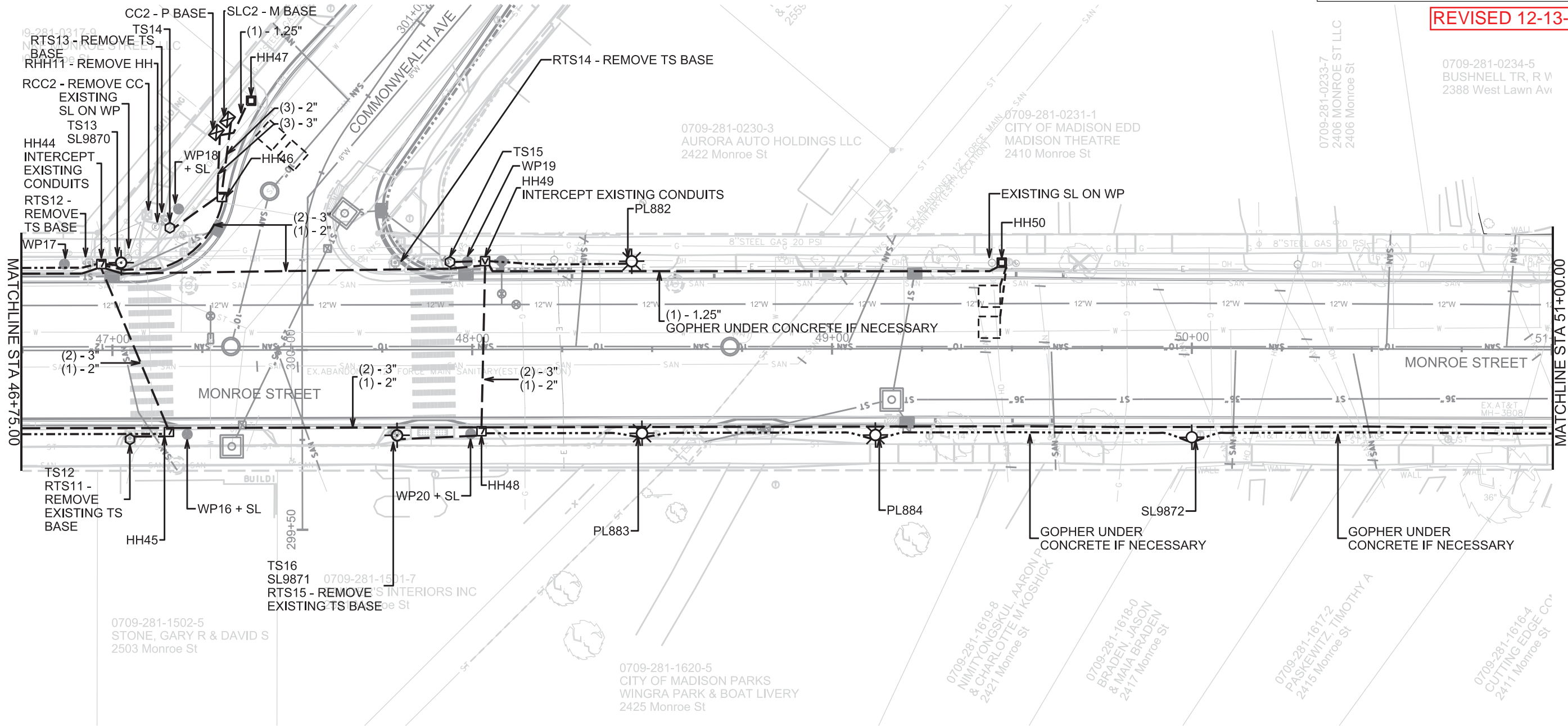
PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.

SCALE 1" = 30'



LEGEND	
	HANDHOLE TYPE 1
	HANDHOLE TYPE 3
	HANDHOLE TYPE 5
	HANDHOLE TYPE 7
	LB-1 BASE PED LIGHT
	LB-3 BASE TALL LIGHT
	LB-8 BASE
	PARKING METER BASE
	G-BASE
	TEMP WOOD POLE
	EXISTING CONDUIT
	EXISTING FIBER OPTIC
	(1) - 2" CONDUIT
	(1) - 3" CONDUIT
	TYPE M or P BASE
	OUTLET LOCATION
	LOOPS BY OTHERS



Department of Public Works  
**Engineering Division**  
Robert F. Phillips, P.E., City Engineer

City-County Building, Room 115  
210 Martin Luther King, Jr. Boulevard  
Madison, Wisconsin 53703  
Phone: (608) 266-4751  
Fax: (608) 264-9275  
[engineering@cityofmadison.com](mailto:engineering@cityofmadison.com)  
[www.cityofmadison.com/engineering](http://www.cityofmadison.com/engineering)

**Assistant City Engineer**

Gregory T. Fries, P.E.  
Kathleen M. Cryan

**Principal Engineer 2**

Christopher J. Petykowski, P.E.  
John S. Fahrney, P.E.

**Principal Engineer 1**

Christina M. Bachmann, P.E.

**Facilities & Sustainability**

Jeanne E. Hoffman, Manager

**Mapping Section Manager**

Eric T. Pederson, P.S.

**Financial Manager**

Steven B. Danner-Rivers

December 19, 2017

**NOTICE OF ADDENDUM  
ADDENDUM NO. 3  
CONTRACT NO. 7974**

**MONROE STREET ASSESSEMENT DISTRICT - 2018**

Revise and amend the contract document(s) for the above project as stated in this addendum, otherwise, the original document shall remain in effect.

**SPECIAL PROVISIONS:**

**ADD TO BID ITEM - 90079 PRECAST CONCRETE SIDEWALK PANEL:**

Precast Concrete Sidewalk Panels shall be 6 Inches thick.

**PROPOSAL:**

See below for a summary of item quantities that have been revised. Refer to the proposal for updated quantities.

**ITEMS:**

Action	Bid Item	Description	Original Qty.	New Qty.
MODIFY	90054	SHRUBS	52 EACH	8 EACH
MODIFY	90056	PERENNIALS & GRASSES, 1 GAL., CONT.	280 EACH	295 EACH

**INFORMATIONAL ITEMS ONLY:**

Addition questions from contractors and responses are below:

Q: Is there a specific manufacturer or catalog number for the metal cabinets within the mosaic wall?

A: No. The required dimensions are specified, and if no prefabricated can be found meeting the details and specifications, the cabinet may need to be custom built.

Q: Is there a thickness and specific manufacturer/product for the precast concrete panels?

December 19, 2017

A: The precast concrete panels shall be 6-Inches thick. The City had previously used the Replenish product made by Spancrete, but any precast panels meeting the specified criteria would be acceptable.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert Phillips". The signature is stylized with large, flowing loops for the first and last names.

---

Robert F. Phillips, P.E.  
City Engineer

RFP:JMW

## SECTION E: BIDDERS ACKNOWLEDGEMENT

### MONROE STREET CONTRACT NO. 7974

Bidder must state a Unit Price and Total Bid for each item. The Total Bid for each item must be the product of quantity, by Unit Price. The Grand Total must be the sum of the Total Bids for the various items. In case of multiplication errors or addition errors, the Grand Total with corrected multiplication and/or addition shall determine the Grand Total bid for each contract. The Unit Price and Total Bid must be entered numerically in the spaces provided. All words and numbers shall be written in ink.

1. The undersigned having familiarized himself/herself with the Contract documents, including Advertisement for Bids, Instructions to Bidders, Form of Proposal, City of Madison Standard Specifications for Public Works Construction - 2017 Edition thereto, Form of Agreement, Form of Bond, and Addenda issued and attached to the plans and specifications on file in the office of the City Engineer, hereby proposes to provide and furnish all the labor, materials, tools, and expendable equipment necessary to perform and complete in a workmanlike manner the specified construction on this project for the City of Madison; all in accordance with the plans and specifications as prepared by the City Engineer, including Addenda Nos. 1 through 3 to the Contract, at the prices for said work as contained in this proposal. (Electronic bids submittals shall acknowledge addendum under Section E and shall not acknowledge here)
2. If awarded the Contract, we will initiate action within seven (7) days after notification or in accordance with the date specified in the contract to begin work and will proceed with diligence to bring the project to full completion within the number of work days allowed in the Contract or by the calendar date stated in the Contract.
3. The undersigned Bidder or Contractor certifies that he/she is not a party to any contract, combination in form of trust or otherwise, or conspiracy in restraint of trade or commerce or any other violation of the anti-trust laws of the State of Wisconsin or of the United States, with respect to this bid or contract or otherwise.
4. I hereby certify that I have met the Bid Bond Requirements as specified in Section 102.5.  
(IF BID BOND IS USED, IT SHALL BE SUBMITTED ON THE FORMS PROVIDED BY THE CITY. FAILURE TO DO SO MAY RESULT IN REJECTION OF THE BID).
5. I hereby certify that all statements herein are made on behalf of Speedway Sand & Gravel Inc. (name of corporation, partnership, or person submitting bid) a corporation organized and existing under the laws of the State of Wisconsin a partnership consisting of \_\_\_\_\_; an individual trading as \_\_\_\_\_ of the City of \_\_\_\_\_ State of \_\_\_\_\_; that I have examined and carefully prepared this Proposal, from the plans and specifications and have checked the same in detail before submitting this Proposal; that I have fully authority to make such statements and submit this Proposal in (its, their) behalf; and that the said statements are true and correct.

SIGNATURE

Vice President

TITLE, IF ANY

Sworn and subscribed to before me this  
21st day of December, 2017.

Janice Ryan  
(Notary Public or other officer authorized to administer oaths)  
My Commission Expires 10-21-21

Bidders shall not add any conditions or qualifying statements to this Proposal.



## **Contract 7974 – Speedway Sand & Gravel, Inc.**

### **Section F: Best Value Contracting (BVC)**

This section is a required document for the bid to be considered complete. There are two methods for completing the Best Value Contracting (BVC) form. Method one: The form can be filled out online and submitted to this site to be included with your electronic bid. Method two: The form can be downloaded from the site and submitted by hand to the City of Madison.

Method of Submittal for BVC (click in box below to choose) \*

I will submit Bid Express fillable online form (BVC).

### **Best Value Contracting**

1. The Contractor shall indicate the non-apprenticeable trades used on this contract.

2. Madison General Ordinance (M.G.O.), 33.07(7), does provide for some exemptions from the active apprentice requirement. Apprenticeable trades are those trades considered apprenticeable by the State of Wisconsin. Please check applicable box if you are seeking an exemption.

- ☐ Contractor has a total skilled workforce of four or less individuals in all apprenticeable trades combined.
- ☐ No available trade training program; The Contractor has been rejected by the only available trade training program, or there is no trade training program within 90 miles.
- ☐ Contractor is not using an apprentice due to having a journey worker on layoff status, provided the journey worker was employed by the contractor in the past six months.
- ☐ First time contractor on City of Madison Public Works contract requests a onetime exemption but intends to comply on all future contracts and is taking steps typical of a "good faith" effort.
- ☐ Contractor has been in business less than one year.
- ☐ Contractor doesn't have enough journeyman trade workers to qualify for a trade training program in that respective trade.
- ☐ An exemption is granted in accordance with a time period of a "Documented Depression" as defined by the State of Wisconsin.

3. The Contractor shall indicate on the following section which apprenticeable trades are to be used on this contract. Compliance with active apprenticeship, to the extent required by M.G.O. 33.07(7), shall be satisfied by documentation from an applicable trade training body; an apprenticeship contract with the Wisconsin Department of Workforce Development or a similar agency in another state; or the U.S Department of Labor. This documentation is required prior to the Contractor beginning work on the project site.

- ☐ The Contractor has reviewed the list and shall not use any apprenticeable trades on this project.

LIST APPRENTICABLE TRADES (check all that apply to your work to be performed on this contract)

- ☐ BRICKLAYER
- ☐ CARPENTER
- ☐ CEMENT MASON / CONCRETE FINISHER
- ☐ CEMENT MASON (HEAVY HIGHWAY)
- ☒ CONSTRUCTION CRAFT LABORER
- ☐ DATA COMMUNICATION INSTALLER
- ☐ ELECTRICIAN
- ☐ ENVIRONMENTAL SYSTEMS TECHNICIAN / HVAC SERVICE TECH/HVAC INSTALL / SERVICE
- ☐ GLAZIER
- ☒ HEAVY EQUIPMENT OPERATOR / OPERATING ENGINEER
- ☐ INSULATION WORKER (HEAT and FROST)
- ☐ IRON WORKER
- ☐ IRON WORKER (ASSEMBLER, METAL BLDGS)
- ☐ PAINTER and DECORATOR
- ☐ PLASTERER
- ☐ PLUMBER
- ☐ RESIDENTIAL ELECTRICIAN
- ☐ ROOFER and WATER PROOFER
- ☐ SHEET METAL WORKER
- ☐ SPRINKLER FITTER
- ☐ STEAMFITTER
- ☐ STEAMFITTER (REFRIGERATION)
- ☐ STEAMFITTER (SERVICE)
- ☐ TAPER and FINISHER
- ☐ TELECOMMUNICATIONS (VOICE, DATA and VIDEO) INSTALLER-TECHNICIAN
- ☐ TILE SETTER

**MONROE STREET  
CONTRACT NO. 7974**

**Small Business Enterprise Compliance Report**

This information may be submitted electronically through  
Bid Express or submitted with bid in sealed envelope.

**Cover Sheet**


Prime Bidder Information

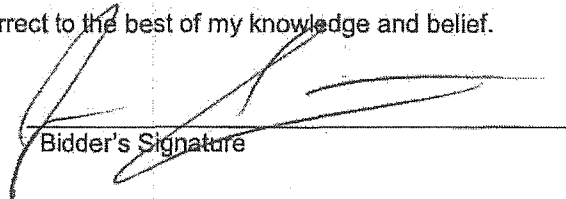
Company: Speedway Sand & Gravel Inc.  
Address: 8500 Greenway Blvd Suite 202, Middleton, WI 53562  
Telephone Number: 608-836-1071 x222 Fax Number: 608-836-7485  
Contact Person/Title: John Czerepinski, Vice President

Prime Bidder Certification

I, John Czerepinski, Vice President of  
Name Title  
Speedway Sand & Gravel Inc. certify that the information  
Company

contained in this SBE Compliance Report is true and correct to the best of my knowledge and belief.

  
Witness' Signature

  
Bidder's Signature

December 21, 2017  
Date



**MONROE STREET  
CONTRACT NO. 7974**

**Small Business Enterprise Compliance Report**

**Summary Sheet**

SBE Subcontractors Who Are NOT Suppliers

Name(s) of SBEs Utilized	Type of Work	10 % of Total Bid Amount	%
JR's	Landscaping	1.24%	%
	EC, Planting		%
	Pavers		%
Red Arrow Electric	Electrical	5.26%	%
SBE Trucking	Hauling	3.50	%
Neil Schlough	→	1.77%	%
S & K Trucking	→	1.73%	%
(Full Moon Adventures)			%
			%
			%
Subtotal SBE who are NOT suppliers:		10.5	%

SBE Subcontractors Who Are Suppliers

Name(s) of SBEs Utilized	Type of Work	% of Total Bid Amount	%
			%
			%
			%
			%
			%
			%

Subtotal Contractors who are suppliers: \_\_\_\_\_ % x 0.6 = \_\_\_\_\_ % (discounted to 60%)

Total Percentage of SBE Utilization: 10.0 %.

MONROE STREET

CONTRACT NO. 7974

DATE: 12/21/17

Speedway Sand & Gravel, Inc.

Item	Quantity	Price	Extension
<b>Section B: Proposal Page</b>			
10701.0 - TRAFFIC CONTROL - LUMP SUM	1.00	\$100,000.00	\$100,000.00
10720.0 - TRAFFIC CONTROL SIGN - PORTABLE ARROW BOARD - DAYS	510.00	\$15.00	\$7,650.00
10721.0 - TRAFFIC CONTROL SIGN - PORTABLE CHANGEABLE MESSAGE - DAYS	112.00	\$45.00	\$5,040.00
10801.0 - ROOT CUTTING - CURB & GUTTER (UNDISTRIBUTED) - L.F.	70.00	\$15.00	\$1,050.00
10802.0 - ROOT CUTTING - SIDEWALK (UNDISTRIBUTED) - L.F.	70.00	\$15.00	\$1,050.00
10901.0 - FIELD OFFICE - LUMP SUM	1.00	\$32,000.00	\$32,000.00
10911.0 - MOBILIZATION - LUMP SUM	1.00	\$1,943,000.00	\$1,943,000.00
20101.0 - EXCAVATION CUT - C.Y.	46400.00	\$24.12	\$1,119,168.00
20130.0 - UNDERDRAIN - L.F.	4000.00	\$16.50	\$66,000.00
20140.0 - GEOTEXTILE FABRIC TYPE SAS (NON-WOVEN) S.Y.	10235.00	\$2.50	\$25,587.50
20219.0 - BREAKER RUN - TON	11000.00	\$8.00	\$88,000.00
20221.0 - TOPSOIL - S.Y.	8200.00	\$6.00	\$49,200.00
20301.0 - SAWCUT CONCRETE PAVEMENT, FULL DEPTH - L.F.	10900.00	\$2.50	\$27,250.00
20303.0 - SAWCUT BITUMINOUS PAVEMENT - L.F.	10000.00	\$2.00	\$20,000.00
20321.0 - REMOVE CONCRETE PAVEMENT - S.Y.	37000.00	\$5.50	\$203,500.00
20322.0 - REMOVE CONCRETE CURB & GUTTER - L.F.	17000.00	\$4.00	\$68,000.00
20323.0 - REMOVE CONCRETE SIDEWALK & DRIVE - S.F.	88000.00	\$2.50	\$220,000.00
20327.0 - REMOVE TREE GRATE - EACH	26.00	\$400.00	\$10,400.00
20331.0 - ABANDON SEWER ACCESS STRUCTURE - EACH	21.00	\$900.00	\$18,900.00
20401.0 - CLEARING - I.D.	625.00	\$10.00	\$6,250.00
20402.0 - GRUBBING - I.D.	625.00	\$20.00	\$12,500.00
20701.0 - TERRACE SEEDING - S.Y.	3200.00	\$1.90	\$6,080.00
20801.0 - SODDING - S.Y.	5000.00	\$6.00	\$30,000.00
21063.0 - EROSION MATTING, CLASS I, TYPE A - ORGANIC - S.Y.	3200.00	\$3.00	\$9,600.00
30201.0 - TYPE 'A' CONCRETE CURB & GUTTER - L.F.	16000.00	\$19.00	\$304,000.00
30203.0 - TYPE 'X' CONCRETE CURB & GUTTER - L.F.	1000.00	\$27.00	\$27,000.00
30205.0 - TYPE 'E' CONCRETE CURB & GUTTER - L.F.	150.00	\$25.00	\$3,750.00
30207.0 - TYPE 'H' CONCRETE CURB & GUTTER - L.F.	150.00	\$25.00	\$3,750.00
30208.0 - HAND FORMED CONCRETE CURB & GUTTER - L.F.	200.00	\$32.00	\$6,400.00
30301.0 - 5 INCH CONCRETE SIDEWALK - S.F.	63500.00	\$6.25	\$396,875.00
30302.0 - 7 INCH CONCRETE SIDEWALK AND DRIVE - S.F.	30250.00	\$7.10	\$214,775.00
30311.0 - CONCRETE MOUNTABLE MEDIAN ISLAND NOSE - S.F.	460.00	\$8.50	\$3,910.00
30340.0 - CURB RAMP DETECTABLE WARNING FIELD - S.F.	1380.00	\$35.00	\$48,300.00
30342.0 - TREE GRATE 4'X8' (INCLUDING FRAME) - EACH	6.00	\$2,990.00	\$17,940.00
30344.0 - TREE GRATE 4'X12' (INCLUDING FRAME) - EACH	15.00	\$4,950.00	\$74,250.00
40101.0 - CRUSHED AGGREGATE BASE COURSE GRADATION NO. 1 - TON	30000.00	\$8.00	\$240,000.00
40102.0 - CRUSHED AGGREGATE BASE COURSE GRADATION NO. 2 - TON	40000.00	\$8.00	\$320,000.00
40203.0 - HMA PAVEMENT TYPE E-3 - TON	17500.00	\$57.00	\$997,500.00
40211.0 - TACK COAT - GAL	2700.00	\$2.00	\$5,400.00
40231.0 - ASPHALT DRIVE & TERRACE - S.Y.	105.00	\$48.00	\$5,040.00
40403.0 - 10 INCH CONCRETE PAVEMENT - S.Y.	1905.00	\$80.90	\$154,114.50
60801.0 - PAVEMENT MARKING EPOXY, DOUBLE LINE, 4-INCH - L.F.	7800.00	\$0.80	\$6,240.00
60802.0 - PAVEMENT MARKING EPOXY, LINE, 6-INCH - L.F.	3700.00	\$0.80	\$2,960.00
60803.0 - PAVEMENT MARKING EPOXY, LINE, 8-INCH - L.F.	350.00	\$1.00	\$350.00
60806.0 - PAVEMENT MARKING EPOXY, RADIUS LINE, 6-INCH - L.F.	180.00	\$4.00	\$720.00
60810.0 - PAVEMENT MARKING EPOXY, DIAGONAL LINE, 8-INCH - L.F.	200.00	\$6.25	\$1,250.00
60812.0 - PAVEMENT MARKING EPOXY, CROSSWALK, 6-INCH - L.F.	4000.00	\$5.00	\$20,000.00
60814.0 - PAVEMENT MARKING EPOXY, CROSSWALK, 12-INCH - L.F.	1100.00	\$6.50	\$7,150.00
60816.0 - PAVEMENT MARKING EPOXY, CONTINENTAL CROSSWALK, 18-INCH - L.F.	2000.00	\$7.00	\$14,000.00
60818.0 - PAVEMENT MARKING EPOXY, STOP LINE, 24-INCH - L.F.	800.00	\$8.00	\$6,400.00
60819.0 - PAVEMENT MARKING EPOXY, CURB - L.F.	3200.00	\$3.00	\$9,600.00
60820.0 - PAVEMENT MARKING EPOXY, MEDIAN NOSE - EACH	12.00	\$140.00	\$1,680.00
60822.0 - PAVEMENT MARKING EPOXY, SYMBOL, BIKE SHARROW - EACH	2.00	\$200.00	\$400.00

**MONROE STREET**

CONTRACT NO. 7974

DATE: 12/21/17

Speedway Sand &amp; Gravel, Inc.

Item	Quantity	Price	Extension
60826.0 - PAVEMENT MARKING EPOXY, SYMBOL, BIKE LANE & STRAIGHT ARROW - EACH	1.00	\$200.00	\$200.00
60829.0 - PAVEMENT MARKING EPOXY, SYMBOL, LEFT ARROW - EACH	2.00	\$145.00	\$290.00
60830.0 - PAVEMENT MARKING EPOXY, SYMBOL, RIGHT ARROW - EACH	1.00	\$145.00	\$145.00
60833.0 - PAVEMENT MARKING EPOXY, SYMBOL, STRAIGHT & RIGHT ARROW - EACH	2.00	\$180.00	\$360.00
60834.0 - PAVEMENT MARKING EPOXY, WORD, ONLY - EACH	3.00	\$150.00	\$450.00
60881.0 - PAVEMENT MARKING REMOVAL, 6-INCH - L.F.	200.00	\$1.50	\$300.00
60885.0 - PAVEMENT MARKING REMOVAL, 24-INCH - L.F.	20.00	\$6.00	\$120.00
60886.0 - PAVEMENT MARKING REMOVAL, 4" DOUBLE LINE - L.F.	300.00	\$2.50	\$750.00
60888.0 - PAVEMENT MARKING REMOVAL, SYMBOL, ARROW - EACH	1.00	\$115.00	\$115.00
60941.0 - TEMPORARY PAVEMENT MARKING TAPE, REMOVABLE, REFLECTIVE, LINE, 4-INCH - L.F.	100.00	\$2.00	\$200.00
60945.0 - TEMPORARY PAVEMENT MARKING TAPE, REMOVABLE, REFLECTIVE, LINE, 24-INCH - L.F.	100.00	\$6.00	\$600.00
60953.0 - TEMPORARY PAVEMENT MARKING TAPE, REMOVABLE, REFLECTIVE, SYMBOL, LEFT ARROW - EACH	2.00	\$200.00	\$400.00
60958.0 - TEMPORARY PAVEMENT MARKING TAPE, REMOVABLE, REFLECTIVE, WORD, ONLY - EACH	2.00	\$250.00	\$500.00
90001.0 - SIDEWALK CURB - L.F.	40.00	\$30.00	\$1,200.00
90002.0 - 10" COLORED CONCRETE CROSSWALK - S.Y.	470.00	\$106.00	\$49,820.00
90003.0 - COLORED AND TEXTURED CONCRETE 7-INCH - S.F.	1585.00	\$10.75	\$17,038.75
90004.0 - CONCRETE ISLAND - S.F.	470.00	\$9.50	\$4,465.00
90005.0 - DECOMPOSED GRANITE - S.F.	160.00	\$20.00	\$3,200.00
90006.0 - PLANTING SOIL MIXTURE - C.Y.	340.00	\$42.00	\$14,280.00
90007.0 - BIKE RACK, SINGLE STALL - EACH	12.00	\$275.00	\$3,300.00
90008.0 - REMOVE, SALVAGE & REINSTALL BIKE RACK, SINGLE STALL - EACH	11.00	\$225.00	\$2,475.00
90009.0 - TEMPORARY PAVEMENT (UNDISTRIBUTED) - S.Y.	1800.00	\$47.00	\$84,600.00
90010.0 - TEMPORARY SIDEWALK (UNDISTRIBUTED) - S.F.	10000.00	\$3.00	\$30,000.00
90011.0 - TEMPORARY CROSSWALK ACCESS - EACH	50.00	\$1,000.00	\$50,000.00
90012.0 - INSTALL 4'X8' TREE GRATE FRAME - EACH	2.00	\$940.00	\$1,880.00
90013.0 - CONCRETE PAVEMENT JOINT SEALING - L.F.	4400.00	\$14.00	\$61,600.00
90014.0 - EXCAVATION, LOADING AND HAULING OF PETROLEUM CONTAMINATED SOIL - TON	300.00	\$35.00	\$10,500.00
90015.0 - HIGH FRICTION COLORED SURFACE-BIKE LANE GREEN - S.F.	5000.00	\$7.25	\$36,250.00
90016.0 - RE-GRADE TERRACE (UNDISTRIBUTED) - S.Y.	300.00	\$6.00	\$1,800.00
90017.0 - REMOVE MISCELLANEOUS UNDERGROUND OBSTRUCTION - C.Y.	60.00	\$100.00	\$6,000.00
90018.0 - 5" CONCRETE SIDEWALK WITH POETRY - S.F.	360.00	\$8.50	\$3,060.00
90019.0 - REMOVE & SALVAGE BRICK PAVERS - S.F.	375.00	\$7.00	\$2,625.00
90020.0 - TERRACE EXCAVATION FOR TREE PLANTING (UNDISTRIBUTED) - C.Y.	80.00	\$30.00	\$2,400.00
90021.0 - REMOVE & SALVAGE OVERHEAD BUSINESS SIGN - EACH	1.00	\$1,500.00	\$1,500.00
90022.0 - REMOVE, SALVAGE AND REINSTALL ACCESS GATE - LUMP SUM	1.00	\$1,300.00	\$1,300.00
90023.0 - TEMPORARY BUS STOP LOADING PAD - EACH	10.00	\$1,100.00	\$11,000.00
90024.0 - REMOVE & RESET OPEN CELLED PAVERS - S.F.	20.00	\$40.00	\$800.00
90025.0 - GRADING, PLAZA - LUMP SUM	1.00	\$21,000.00	\$21,000.00
90026.0 - GRADING, WINGRA PARK ENTRANCE - LUMP SUM	1.00	\$2,500.00	\$2,500.00
90027.0 - POURED IN PLACE PLAYGROUND SURFACING - S.F.	370.00	\$36.00	\$13,320.00
90028.0 - TREE PROTECTION FENCE - L.F.	250.00	\$5.50	\$1,375.00
90029.0 - CAST IN PLACE CURBWALL - L.F.	93.00	\$186.00	\$17,298.00
90030.0 - CAST IN PLACE CURBWALL WITH SPREAD FOOTING - L.F.	65.00	\$347.00	\$22,555.00
90031.0 - STONE VENEER SCULPTURE BASE - LUMP SUM	1.00	\$8,600.00	\$8,600.00
90032.0 - STONE VENEER SEAT WALL - LUMP SUM	1.00	\$32,200.00	\$32,200.00
90033.0 - STONE VENEER RETAINING WALL - LUMP SUM	1.00	\$36,500.00	\$36,500.00
90034.0 - CONCRETE SEATWALL ON CONCRETE SLAB - LUMP SUM	1.00	\$14,100.00	\$14,100.00
90035.0 - CONCRETE SEATWALL WITH BACK - LUMP SUM	1.00	\$22,900.00	\$22,900.00

MONROE STREET

CONTRACT NO. 7974

DATE: 12/21/17

Speedway Sand & Gravel, Inc.

Item	Quantity	Price	Extension
90036.0 - CONCRETE SEATWALL - LUMP SUM	1.00	\$12,400.00	\$12,400.00
90037.0 - MOSAIC WALL - LUMP SUM	1.00	\$166,000.00	\$166,000.00
90038.0 - PRECAST MOSAIC PANEL, UNIT 1 - EACH	1.00	\$5,000.00	\$5,000.00
90039.0 - PRECAST MOSAIC PANEL, UNIT 2 - EACH	1.00	\$5,000.00	\$5,000.00
90040.0 - STONE VENEER PILLAR - EACH	3.00	\$7,700.00	\$23,100.00
90041.0 - MOVEABLE TABLE - EACH	10.00	\$925.00	\$9,250.00
90042.0 - MOVEABLE CHAIR - EACH	30.00	\$330.00	\$9,900.00
90043.0 - DRINKING FOUNTAIN - EACH	1.00	\$12,300.00	\$12,300.00
90044.0 - BENCH, 6-FOOT - EACH	2.00	\$1,440.00	\$2,880.00
90045.0 - BIKE RACK, MULTI-STALL - EACH	2.00	\$775.00	\$1,550.00
90046.0 - VENDOR MEDALLION - EACH	17.00	\$350.00	\$5,950.00
90047.0 - INTERPRETIVE SIGNAGE - EACH	1.00	\$2,365.00	\$2,365.00
90048.0 - DECORATIVE RIP-RAP - TON	10.00	\$200.00	\$2,000.00
90049.0 - BOULDER OUTCROPPING - EACH	7.00	\$700.00	\$4,900.00
90050.0 - CELEBRATION MAPLE, 2.5" CAL., B&B - EACH	3.00	\$680.00	\$2,040.00
90051.0 - SKYLINE HONEYLOCUST, 2.5" CAL., B&B - EACH	4.00	\$510.00	\$2,040.00
90052.0 - EXCLAMATION LONDON PLANE TREE, 2" CAL., B&B - EACH	3.00	\$725.00	\$2,175.00
90053.0 - AUTUMN BRILLIANCE SERVICEBERRY, 5-FOOT HT., B&B - EACH	1.00	\$625.00	\$625.00
90054.0 - SHRUBS - EACH	8.00	\$80.00	\$640.00
90055.0 - PERENNIALS & GRASSES, 4-INCH, POT - EACH	580.00	\$14.00	\$8,120.00
90056.0 - PERENNIALS & GRASSES, 1 GAL., CONT. - EACH	295.00	\$20.00	\$5,900.00
90057.0 - SHREDDED HARDWOOD BARK MULCH - C.Y.	22.00	\$80.00	\$1,760.00
90058.0 - SHORTGRASS PRAIRIE SEED MIX - S.Y.	97.00	\$5.00	\$485.00
90059.0 - SCULPTURE FOUNDATION - EACH	1.00	\$1,350.00	\$1,350.00
90060.0 - ASPHALT REJUVENATOR - S.Y.	45000.00	\$1.14	\$51,300.00
90100.0 - INCENTIVE FOR COMPLETION OF WORK - DAY	15.00	\$3,000.00	\$45,000.00
20217.0 - CLEAR STONE - TON	7000.00	\$2.50	\$17,500.00
21002.0 - EROSION CONTROL INSPECTION - EACH	15.00	\$500.00	\$7,500.00
21011.0 - CONSTRUCTION ENTRANCE - EACH	25.00	\$400.00	\$10,000.00
21012.0 - STREET CONSTRUCTION ENTRANCE BERM - EACH	14.00	\$400.00	\$5,600.00
21013.0 - STREET SWEEPING - LUMP SUM	5.00	\$3,000.00	\$15,000.00
21015.0 - STREET CONSTRUCTION STONE BERM - EACH	56.00	\$400.00	\$22,400.00
21017.0 - SILT SOCK (8 INCH) - COMPLETE - L.F.	200.00	\$7.00	\$1,400.00
21032.0 - INLET PROTECTION, TYPE C - PROVIDE & INSTALL - EACH	27.00	\$125.00	\$3,375.00
21033.0 - INLET PROTECTION, TYPE C - MAINTAIN - EACH	54.00	\$80.00	\$4,320.00
21034.0 - INLET PROTECTION, TYPE C - REMOVE - EACH	27.00	\$50.00	\$1,350.00
50401.0 - 12 INCH TYPE I RCP STORM SEWER PIPE - L.F.	2824.50	\$86.85	\$245,307.83
50741.0 - TYPE H INLET - EACH	87.00	\$2,700.00	\$234,900.00
50801.0 - UTILITY LINE OPENING (ULO) - EACH	106.00	\$750.00	\$79,500.00
90069.0 - RIGID FRAME INLET PROTECTION-COMplete - EACH	222.00	\$350.00	\$77,700.00
20233.0 - RIPRAP FILTER FABRIC, TYPE HR - S.Y.	58.00	\$12.00	\$696.00
20311.0 - REMOVE SEWER ACCESS STRUCTURE - EACH	62.00	\$1,200.00	\$74,400.00
20312.0 - REMOVE CATCHBASIN - EACH	6.00	\$800.00	\$4,800.00
20313.0 - REMOVE INLET - EACH	75.00	\$500.00	\$37,500.00
20314.0 - REMOVE PIPE - L.F.	3090.00	\$30.00	\$92,700.00
20332.0 - ABANDON CATCHBASIN - EACH	2.00	\$700.00	\$1,400.00
20335.0 - ABANDON SEWER PIPE WITH SLURRY - C.Y.	514.50	\$320.00	\$164,640.00
20336.0 - PIPE PLUG - EACH	55.00	\$350.00	\$19,250.00
20501.0 - ADJUST SEWER ACCESS STRUCTURE - EACH	16.00	\$400.00	\$6,400.00
20503.0 - ADJUST INLET - EACH	22.00	\$400.00	\$8,800.00
20502.0 - ADJUST CATCHBASIN - EACH	2.00	\$450.00	\$900.00
50201.0 - ROCK EXCAVATION - C.Y.	1440.00	\$1.00	\$1,440.00
50211.0 - SELECT FILL FOR STORM SEWER MAIN - L.F.	9324.50	\$1.00	\$9,324.50
50225.0 - UTILITY TRENCH PATCH TYPE III - T.F.	805.00	\$50.00	\$40,250.00
50321.0 - 8 INCH PVC PRESSURE SANITARY SEWER PIPE - L.F.	84.00	\$150.10	\$12,608.40
50402.0 - 15 INCH TYPE I RCP STORM SEWER PIPE - L.F.	63.50	\$118.25	\$7,508.88
50403.0 - 18 INCH TYPE I RCP STORM SEWER PIPE - L.F.	1612.00	\$81.15	\$130,813.80

MONROE STREET

CONTRACT NO. 7974

DATE: 12/21/17

Speedway Sand & Gravel, Inc.

Item	Quantity	Price	Extension
50404.0 - 21 INCH TYPE I RCP STORM SEWER PIPE - L.F.	783.00	\$85.00	\$66,555.00
50405.0 - 24 INCH TYPE I RCP STORM SEWER PIPE - L.F.	794.00	\$88.10	\$69,951.40
50409.0 - 36 INCH TYPE I RCP STORM SEWER PIPE - L.F.	1829.00	\$117.65	\$215,181.85
50410.0 - 42 INCH TYPE I RCP STORM SEWER PIPE - L.F.	1094.00	\$145.00	\$158,630.00
50418.0 - 14 INCH X 23 INCH TYPE I HERCP STORM SEWER PIPE - L.F.	81.00	\$160.00	\$12,960.00
50421.0 - 29 INCH X 45 INCH TYPE I HERCP STORM SEWER PIPE - L.F.	187.00	\$224.00	\$41,888.00
50422.0 - 34 INCH X 53 INCH TYPE I HERCP STORM SEWER PIPE - L.F.	96.50	\$268.00	\$25,862.00
50485.0 - 34 INCH X 53 INCH HERCP AE - EACH	1.00	\$3,015.00	\$3,015.00
50499.0 - CONCRETE COLLAR - EACH	1.00	\$900.00	\$900.00
50625.0 - 34 INCH X 53 INCH HERCP AE GATE - EACH	1.00	\$1,760.00	\$1,760.00
50723.0 - 3'X3' STORM SAS - EACH	32.00	\$3,060.00	\$97,920.00
50724.0 - 4'X4' STORM SAS - EACH	1.00	\$4,425.00	\$4,425.00
50725.0 - 5'X5' STORM SAS - EACH	26.00	\$7,100.00	\$184,600.00
50726.0 - 6'X6' STORM SAS - EACH	6.00	\$7,890.00	\$47,340.00
50761.0 - SADDLED INLET TYPE 1 - EACH	2.00	\$2,800.00	\$5,600.00
50792.0 - STORM SEWER TAP - EACH	19.00	\$1,200.00	\$22,800.00
50793.0 - PRIVATE STORM SEWER RECONNECT, TYPE 1 - EACH	18.00	\$2,500.00	\$45,000.00
90065.0 - RECONSTRUCT CATCHBASIN TO SAS CASTING - EACH	1.00	\$2,000.00	\$2,000.00
90066.0 - 8' x 4' RCB ASTM C-1433 45 DEGREES PRECAST BEND - EACH	6.00	\$9,000.00	\$54,000.00
90067.0 - 7' x 7' STORM SAS - EACH	1.00	\$9,820.00	\$9,820.00
90068.0 - 3' x 3' SAS MODIFIED - EACH	4.00	\$4,740.00	\$18,960.00
90070.0 - 8' X 4' ASTM - C-1433 BOX CULVERT- INSTALLATION - L.F.	131.00	\$1,410.00	\$184,710.00
90071.0 - STORM CONTROL PLAN AND IMPLEMENTATION - LUMP SUM	1.00	\$20,000.00	\$20,000.00
21110.0 - TERRACE RAIN GARDEN - S.F.	750.00	\$14.00	\$10,500.00
90074.0 - 3'X4' BOX CULVERT - L.F.	104.00	\$396.00	\$41,184.00
90075.0 - ROCK INFILTRATION TRENCH - LUMP SUM	1.00	\$21,200.00	\$21,200.00
90076.0 - WINGRA SCREEN TREATMENT STRUCTURE - EACH	1.00	\$144,000.00	\$144,000.00
90077.0 - 3'X3' STORM SAS WITH SUMP - EACH	2.00	\$4,100.00	\$8,200.00
90078.0 - BIORETENTION CONSTRUCTION - S.F.	1403.00	\$14.00	\$19,642.00
90079.0 - PRECAST CONCRETE SIDEWALK PANEL - S.F.	100.00	\$42.00	\$4,200.00
50103.0 - RECONSTRUCT BENCH AND FLOWLINE(S) - EACH	5.00	\$1,500.00	\$7,500.00
50202.0 - TYPE II DEWATERING - LUMP SUM	1.00	\$1,000.00	\$1,000.00
50212.0 - SELECT FILL FOR SANITARY SEWER MAIN - T.F.	15881.00	\$1.00	\$15,881.00
50301.0 - 8" PVC SANITARY SEWER PIPE SDR-35/ SDR-26 - L.F.	4959.00	\$178.00	\$882,702.00
50302.0 - 10" PVC SANITARY SEWER PIPE SDR-35 - L.F.	1224.00	\$174.00	\$212,976.00
50303.0 - 12" PVC SANITARY SEWER PIPE SDR-35/ SDR-26 - L.F.	2665.00	\$181.00	\$482,365.00
50304.0 - 15" PVC SANITARY SEWER PIPE SDR-35 - L.F.	1285.00	\$191.00	\$245,435.00
50305.0 - 18" PVC SANITARY SEWER PIPE PS 46, ASTM F679 - L.F.	212.00	\$226.00	\$47,912.00
50306.0 - 21" PVC SANITARY SEWER PIPE PS 46, ASTM F679 - L.F.	34.00	\$277.00	\$9,418.00
50353.0 - SANITARY SEWER LATERAL SDR-35/SDR-26 - L.F.	5374.00	\$76.00	\$408,424.00
50355.0 - RECONNECT SANITARY LATERAL - EACH	202.00	\$4,088.00	\$825,776.00
50357.0 - COMPRESSION COUPLING - EACH	11.00	\$320.00	\$3,520.00
50390.0 - SEWER ELECTRONIC MARKERS - EACH	450.00	\$40.00	\$18,000.00
50701.0 - FOUR FOOT DIAMETER SAS - EACH	53.00	\$3,880.00	\$205,640.00
50702.0 - FIVE FOOT DIAMETER SAS - EACH	6.00	\$5,480.00	\$32,880.00
50703.0 - SIX FOOT DIAMETER SAS - EACH	1.00	\$8,444.00	\$8,444.00
50771.0 - INTERNAL CHIMNEY SEAL - EACH	2.00	\$425.00	\$850.00
50781.0 - 8 INCH OUTSIDE DROP - V.F.	5.60	\$395.00	\$2,212.00
50783.0 - 8 INCH INSIDE DROP - V.F.	3.90	\$395.00	\$1,540.50
50791.0 - SANITARY SEWER TAP - EACH	25.00	\$1,610.00	\$40,250.00
50797.0 - EXTERNAL SEWER ACCESS STRUCTURE JOINT SEAL - EACH	10.00	\$585.00	\$5,850.00
90080.0 - REMOVE CLEANOUT - EACH	3.00	\$400.00	\$1,200.00
90081.0 - SANITARY SEWER PRESSURE LATERAL - L.F.	48.00	\$136.00	\$6,528.00
90082.0 - INSTALL BACKFLOW PREVENTER - EACH	5.00	\$597.00	\$2,985.00
90083.0 - WASTEWATER CONTROL- CITY - LUMP SUM	1.00	\$134,000.00	\$134,000.00
90084.0 - WASTEWATER CONTROL- MMSD - LUMP SUM	1.00	\$26,000.00	\$26,000.00
90085.0 - RECONDITION MMSD MANHOLE - EACH	1.00	\$3,000.00	\$3,000.00

MONROE STREET

CONTRACT NO. 7974

DATE: 12/21/17

Speedway Sand & Gravel, Inc.

Item	Quantity	Price	Extension
70001.0 - FURNISH AND INSTALL 4 INCH PIPE & FITTINGS - L.F.	85.00	\$172.00	\$14,620.00
70002.0 - FURNISH AND INSTALL 6 INCH PIPE & FITTINGS - L.F.	460.00	\$160.00	\$73,600.00
70003.0 - FURNISH AND INSTALL 8 INCH PIPE & FITTINGS - L.F.	1260.00	\$175.00	\$220,500.00
70004.0 - FURNISH AND INSTALL 10 INCH PIPE & FITTINGS - L.F.	240.00	\$183.00	\$43,920.00
70005.0 - FURNISH AND INSTALL 12 INCH PIPE & FITTINGS - L.F.	9180.00	\$170.00	\$1,560,600.00
70030.0 - FURNISH AND INSTALL 4-INCH WATER VALVE - EACH	5.00	\$1,660.00	\$8,300.00
70031.0 - FURNISH AND INSTALL 6-INCH WATER VALVE - EACH	31.00	\$1,920.00	\$59,520.00
70032.0 - FURNISH AND INSTALL 8-INCH WATER VALVE - EACH	21.00	\$2,410.00	\$50,610.00
70033.0 - FURNISH AND INSTALL 10-INCH WATER VALVE - EACH	11.00	\$3,265.00	\$35,915.00
70034.0 - FURNISH AND INSTALL 12-INCH WATER VALVE - EACH	43.00	\$4,070.00	\$175,010.00
70040.0 - FURNISH, INSTALL AND SALVAGE HYDRANT - EACH	25.00	\$5,015.00	\$125,375.00
70050.0 - FURNISH AND INSTALL 1 INCH SERVICE LATERALS - EACH	1.00	\$4,026.00	\$4,026.00
70053.0 - REPLACE 1-INCH COPPER SERVICE LATERAL - EACH	30.00	\$4,246.00	\$127,380.00
70054.0 - REPLACE 1 1/2-INCH COPPER SERVICE LATERAL - EACH	3.00	\$5,266.00	\$15,798.00
70055.0 - REPLACE 2-INCH COPPER SERVICE LATERAL - EACH	2.00	\$6,156.00	\$12,312.00
70056.0 - RECONNECT 1-INCH SERVICE LATERAL - EACH	144.00	\$2,811.00	\$404,784.00
70057.0 - RECONNECT 1 1/2-INCH SERVICE LATERAL - EACH	11.00	\$3,637.00	\$40,007.00
70058.0 - RECONNECT 2-INCH SERVICE LATERAL - EACH	5.00	\$4,332.00	\$21,660.00
70080.0 - CUT-IN OR CONNECT TO EXISTING WATER SYSTEM - EACH	46.00	\$2,400.00	\$110,400.00
70081.0 - FURNISH EXCAVATION AND DITCH FOR LIVE TAP - EACH	1.00	\$2,000.00	\$2,000.00
70082.0 - CUT OFF EXISTING WATER MAIN - EACH	15.00	\$2,500.00	\$37,500.00
70090.0 - ABANDON WATER VALVE BOX - EACH	71.00	\$250.00	\$17,750.00
70091.0 - ABANDON WATER VALVE ACCESS STRUCTURE - EACH	31.00	\$600.00	\$18,600.00
70101.0 - FURNISH AND INSTALL INSULATION - L.F.	880.00	\$20.00	\$17,600.00
70104.0 - ADJUST WATER VALVE BOX - EACH	17.00	\$250.00	\$4,250.00
70105.0 - PIPE PLUG FOR WATER MAIN INSTALLATION - EACH	8.00	\$500.00	\$4,000.00
70107.0 - REMOVAL OF EXCESS AMOUNTS OF BOULDERS - C.Y.	275.00	\$5.00	\$1,375.00
90092.0 - CLAY TRENCH PLUG - EACH	12.00	\$500.00	\$6,000.00
60222.0 - FURNISH & INSTALL 3 INCH PVC (SCHEDULE 80) CONDUIT - LF	6560.00	\$8.50	\$55,760.00
60224.0 - FURNISH & INSTALL 3 INCH PVC (SCHEDULE 40) CONDUIT - LF	10905.00	\$7.50	\$81,787.50
60230.0 - FURNISH & INSTALL 2 INCH PVC (SCHEDULE 80) CONDUIT - LF	3200.00	\$7.00	\$22,400.00
60232.0 - FURNISH & INSTALL 2 INCH PVC (SCHEDULE 40) CONDUIT - LF	11755.00	\$6.50	\$76,407.50
60234.0 - FURNISH & INSTALL 1 1/4 INCH PVC (SCHEDULE 40) CONDUIT - LF	875.00	\$6.50	\$5,687.50
60236.0 - FURNISH & INSTALL 1 INCH PVC (SCHEDULE 40) CONDUIT - LF	170.00	\$5.00	\$850.00
60241.0 - GOPHER RACEWAY FOR ELECTRICAL CONDUIT - LF	1590.00	\$27.00	\$42,930.00
60261.0 - ELECTRICAL TRENCH - LF	27105.00	\$2.00	\$54,210.00
60403.0 - CONSTRUCT LB-3 BASE - EACH	58.00	\$900.00	\$52,200.00
60407.0 - CONSTRUCT LB-8 BASE - EACH	19.00	\$1,100.00	\$20,900.00
60409.0 - CONSTRUCTION OFFSET BASE - EACH	20.00	\$1,200.00	\$24,000.00
60411.0 - CONSTRUCT TYPE "G" BASE - EACH	17.00	\$700.00	\$11,900.00
60412.0 - CONSTRUCT TYPE "M" BASE - EACH	7.00	\$1,400.00	\$9,800.00
60413.0 - CONSTRUCT TYPE "P" BASE - EACH	5.00	\$1,400.00	\$7,000.00
60423.0 - REMOVE TRAFFIC SIGNAL BASE - EACH	43.00	\$400.00	\$17,200.00
60427.0 - REMOVE ELECTRICAL HANDHOLE - EACH	24.00	\$300.00	\$7,200.00
60441.0 - AUGER CONCRETE ELECTRICAL BASE - EACH	2.00	\$1,000.00	\$2,000.00
60702.0 - CONSTRUCT ELECTRICAL HANDHOLE TYPE 1 - EACH	47.00	\$900.00	\$42,300.00
60704.0 - CONSTRUCT ELECTRICAL HANDHOLE TYPE 3 - EACH	7.00	\$500.00	\$3,500.00
60706.0 - CONSTRUCT ELECTRICAL HANDHOLE TYPE 5 - EACH	47.00	\$1,100.00	\$51,700.00
60708.0 - CONSTRUCT ELECTRICAL HANDHOLE TYPE 7 - EACH	22.00	\$1,600.00	\$35,200.00
90091.0 - DOUBLE DUPLEX RECEPTACLE IN FLUSH BOX - EACH	3.00	\$1,000.00	\$3,000.00
60255.0 - FURNISH & INSTALL 3#6 AND 1#8 WIRES IN EXISTING OR CONTRACTOR-INSTALLED CONDUIT - LF	16240.00	\$5.00	\$81,200.00
60401.0 - CONSTRUCT LB-1 BASE - EACH	58.00	\$600.00	\$34,800.00
60421.0 - REMOVE STREET LIGHT BASE - EACH	43.00	\$400.00	\$17,200.00
60422.0 - REMOVE STREET LIGHT POLE - EACH	43.00	\$500.00	\$21,500.00
60501.0 - INSTALL CITY FURNISHED STREETLIGHT UNIT - EACH	74.00	\$500.00	\$37,000.00
60504.0 - INSTALL CITY FURNISHED PEDESTRIAN STREETLIGHT UNIT - EACH	71.00	\$450.00	\$31,950.00

**MONROE STREET**

CONTRACT NO. 7974

DATE: 12/21/17

**Speedway Sand & Gravel, Inc.**

Item	Quantity	Price	Extension
90090.0 - MAINTAIN STREET LIGHTS AND SUPPORT STRUCTURES FOR TEMPORARY TRAFFIC SIGNALS - LUMP SUM	1.00	\$120,000.00	\$120,000.00
60414.0 - BASE FOR MULTISPACE PARKING METER - EACH	11.00	\$500.00	\$5,500.00
278 Items	Totals		\$18,650,753.41

## Section B: Alternates

ALT 70001 - FURNISH AND INSTALL 4 INCH PIPE & FITTINGS - L.F.	85.00	\$180.00	\$15,300.00
ALT 70002 - FURNISH AND INSTALL 6 INCH PIPE & FITTINGS - L.F.	460.00	\$162.00	\$74,520.00
ALT 70003 - FURNISH AND INSTALL 8 INCH PIPE & FITTINGS - L.F.	1260.00	\$185.00	\$233,100.00
ALT 70004 - FURNISH AND INSTALL 10 INCH PIPE & FITTINGS - L.F.	240.00	\$197.00	\$47,280.00
ALT 70005 - FURNISH AND INSTALL 12 INCH PIPE & FITTINGS - L.F.	9180.00	\$176.00	\$1,615,680.00
Alternate Total			\$1,985,880.00





Department of Public Works  
**Engineering Division**  
Robert F. Phillips, P.E., City Engineer

City-County Building, Room 115  
210 Martin Luther King, Jr. Boulevard  
Madison, Wisconsin 53703  
Phone: (608) 266-4751  
Fax: (608) 264-9275  
[engineering@cityofmadison.com](mailto:engineering@cityofmadison.com)  
[www.cityofmadison.com/engineering](http://www.cityofmadison.com/engineering)

**Assistant City Engineer**

Gregory T. Fries, P.E.  
Kathleen M. Cryan

**Principal Engineer 2**

Christopher J. Petykowski, P.E.  
John S. Fahrney, P.E.

**Principal Engineer 1**

Christina M. Bachmann, P.E.

**Facilities & Sustainability**

Jeanne E. Hoffman, Manager

**Mapping Section Manager**

Eric T. Pederson, P.S.

**Financial Manager**

Steven B. Danner-Rivers

December 7, 2017

NOTICE OF ADDENDUM  
ADDENDUM NO. 1  
CONTRACT NO. 7974

MONROE STREET ASSESSEMENT DISTRICT - 2018

Revise and amend the contract document(s) for the above project as stated in this addendum, otherwise, the original document shall remain in effect.

**SPECIAL PROVISIONS:**

INSERT THE FOLLOWING:

SECTION 702.4.1 MATERIALS - MECHANICAL JOINT FITTINGS

(1) Mechanical joint fittings are to conform to the requirements of American National Standard for Ductile Iron Compact Fittings, 3-inch through 64-inch for Water (ANSI/AWWA C153/A21.53-11 - latest revision).

SECTION 704.3.5 FURNISH & INSTALL PIPE & FITTINGS - BASIS OF PAYMENT

(3) Additional fittings, where authorized, will be paid or credited as follows:

- 4-Inch Fitting: \$431.25 Each
- 6-Inch Fitting: \$528.75 Each
- 8-Inch Fitting: \$712.50 Each
- 10-Inch Fitting: \$806.25 Each
- 12-Inch Fitting: \$900.00 Each

BID ITEM 70001 – FURNISH AND INSTALL 4-INCH PIPE & FITTINGS

BID ITEM 70002 – FURNISH AND INSTALL 6-INCH PIPE & FITTINGS

BID ITEM 70003 – FURNISH AND INSTALL 8-INCH PIPE & FITTINGS

BID ITEM 70004 – FURNISH AND INSTALL 10-INCH PIPE & FITTINGS

BID ITEM 70005 – FURNISH AND INSTALL 12-INCH PIPE & FITTINGS

The base-bid for these items shall be based on the requirements of the Standard Specifications and these special provisions. Contract award determination will include this value for these items.

Submit bid item alternate prices at the time of the bid – see Alternate 1 located in Section B: Proposal of this project advertisement on [www.bidexpress.com](http://www.bidexpress.com) (Bid Items ALT 70001 – ALT 70005 posted under Alternate 1). **The submitted alternate prices will not be considered when determining the award of the Contract;** however, upon successful award of the Contract, Madison Water Utility shall have the right to replace the

entire base bid quantity of Bid Items 70001 – 70005 with Alternate 1 Bid Items ALT 70001 – ALT 70005, or any combination thereof, at the alternate unit price rates submitted during the bid. Any difference in price will be adjusted through standard City of Madison Public Works change order procedures, based on the actual unit quantity installed.

## PROPOSAL:

### ADD THE FOLLOWING TO SECTION B: PROPOSAL & PROPOSAL PAGE (NOTES)

#### Section B: Proposal Page (Notes)

NOTE: The bidder must completely fill in the base bid and the five Bid Item alternates. The Bid Item alternates consider alternate water main fittings associated with Bid Items 70001 through 70005 (Furnish & Install Pipe & Fittings, 4-inch, 6-inch, 8-inch, 10-inch and 12-inch). See the Contract Special Provisions and the following Section B: Alternate Bid Items for more detailed information. The contract shall be awarded based on the base bid only (alternate items will not be included when determining award). Upon successful award of the contract based on the base bid, the City shall have the right to proceed with replacing any or all of the awarded Bid Items 70001 through 70005 with Alternate Bid Items ALT 70001 through ALT 70005 at the submitted Alternate Bid Item unit prices. Any difference in value will be adjusted after award through standard City of Madison Public Works contract change order procedures.

### SECTION B: ALTERNATES

#### NOTES:

Bid Item Alternates – BID ITEMS ALT 70001 – ALT 70005 FURNISH AND INSTALL (SIZE) PIPE & FITTINGS:

Provide and install the lineal-foot unit price to furnish and install 4-inch, 6-inch, 8-inch, 10-inch or 12-inch diameter water pipe & fittings in accordance with the requirements of the Standard Specifications, with no modifications. These items are listed on the proposal as ALT 70001 – ALT 70005. Upon successful award of the contract, the City shall have the right to replace the entire base bid quantity of Bid Items 70001, 70002, 70003, 70004, or 70005 with Alternate Bid Items ALT 70001, ALT 70002, ALT 70003, ALT 70004, or ALT 70005, or any combination thereof, at the unit price rate submitted herein. Any difference in price will be adjusted through standard City of Madison Public Works change order procedures, based on the actual unit quantity installed.

#### ITEMS:

Action	Bid Item	Description	Quantity
INSERT	ALT 70001	FURNISH AND INSTALL 4-INCH PIPE & FITTINGS	85 L.F.
INSERT	ALT 70002	FURNISH AND INSTALL 6-INCH PIPE & FITTINGS	460 L.F.
INSERT	ALT 70003	FURNISH AND INSTALL 8-INCH PIPE & FITTINGS	1260 L.F.
INSERT	ALT 70004	FURNISH AND INSTALL 10-INCH PIPE & FITTINGS	240 L.F.
INSERT	ALT 70005	FURNISH AND INSTALL 12-INCH PIPE & FITTINGS	9180 L.F.

December 8, 2017

Page 3

**INFORMATIONAL ITEMS ONLY:**

Preliminary, Not for Construction plans of the proposed alignment of the MG&E Electric joint trench work and the proposed plan for MG&E Gas are included for reference only. These plans are preliminary and are subject change. Contractors shall direct any questions to the contacts listed in the special provisions. Preliminary MG&E plans show proposed City Utilities that are inaccurate and out-of-date. Refer to the City approved plans for all proposed City utility information.

For clarification purposes, sanitary sewer plans, showing only the existing and proposed sanitary sewer lines are posted for reference only. These plans shall not be considered part of the construction plan set, and these plans WILL NOT be updated with any further revisions to the sanitary sewer plans that are included with plan set for this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert F. Phillips". The signature is stylized with large, flowing loops.

---

Robert F. Phillips, P.E.  
City Engineer

RFP:JMW



Department of Public Works  
**City Engineering Division**

Larry D. Nelson, P.E.  
City Engineer

City-County Building, Room 115  
210 Martin Luther King, Jr. Boulevard  
Madison, Wisconsin 53703  
608 264 9275 FAX  
1 866 704 2315 Textnet

**608 266 4751**

**Deputy City Engineer**  
Robert F. Phillips, P.E.

**Principal Engineers**  
Michael R. Dailey, P.E.  
Christina M. Bachmann, P.E.  
John S. Fahrney, P.E.  
Gregory T. Fries, P.E.

**Facilities & Sustainability**  
Jeanne E. Hoffman, Manager  
James C. Whitney, A.I.A.

**Operations Supervisor**  
Kathleen M. Cryan

**Hydrogeologist**  
Joseph L. DeMorett, P.G.

**GIS Manager**  
David A. Davis, R.L.S.

**Financial Officer**  
Steven B. Danner-Rivers

**BIENNIAL BID BOND**

Speedway Sand & Gravel, Inc.

(a corporation of the State of Wisconsin)

(individual), (partnership), (hereinafter referred to as the "Principal") and

Fidelity and Deposit Company of America

a corporation of the State of Maryland (hereinafter referred to as the "Surety") and licensed to do business in the State of Wisconsin, are held and firmly bound unto the City of Madison, Wisconsin (hereinafter referred to as the "City"), in the sum equal to the individual proposal guaranty amounts of the total bid or bids of the Principal herein accepted by the City, for the payment of which the Principal and the Surety hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of this obligation is that the Principal has submitted to the City certain bids for projects from the time period of February 1, 2016 through January 31, 2018.

If the Principal is awarded the contract(s) by the City and, within the time and manner required by law after the prescribed forms are presented for its signature, the Principal enters into (a) written contract(s) in accordance with the bid(s), and files with the City its bond(s) guaranteeing faithful performance and payment for all labor and materials, as required by law, or if the City rejects all bids for the work described, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

In the event the Principal shall fail to execute and deliver the contract(s) or the performance and payment bond(s), all within the time specified or any extension thereof, the Principal and Surety agree jointly and severally to pay to the City within ten (10) calendar days of written demand a total equal to the sum of the individual proposal guaranty amounts of the total bid(s) as liquidated damages.

The Surety, for value received, hereby agrees that the obligations of it and its bond shall be in no way impaired or affected by any extension of time within which the City may accept a bid, and the Surety does hereby waive notice of any such extension.

This bond may be terminated by the Surety upon giving thirty (30) days written notice to the City of its intent to terminate this bond and to be released and discharged therefrom, but such termination shall not operate to relieve or discharge the Surety from any liability already accrued or which shall accrue before the expiration of such thirty (30) day period.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, on the day and year set forth below.

**PRINCIPAL**

Speedway Sand & Gravel, Inc.  
COMPANY NAME

AFFIX SEAL

11-16-2015  
DATE

By:

SIGNATURE AND TITLE

John Czerepinski, V.P.

**SURETY**

Fidelity and Deposit Company of America  
COMPANY NAME

AFFIX SEAL

11-16-2015  
DATE

By:

SIGNATURE AND TITLE

Elizabeth Mosca, Attorney-in-Fact

This certifies that I have been duly licensed as an agent for the Surety in Wisconsin under License No. 2530156 for the year 2016, and appointed as attorney in fact with authority to execute this bid bond, which power of attorney has not been revoked.

11-16-2015  
DATE

Liz Mosca  
AGENT

PO Box 259408  
ADDRESS

Madison, WI 53725  
CITY, STATE AND ZIP CODE

608-252-9674  
TELEPHONE NUMBER

Note to Surety and Principal: Any bid submitted which this bond guarantees may be rejected if the Power of Attorney form showing that the Agent of Surety is currently authorized to execute bonds on behalf of Surety is not attached to this bond.

**ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND  
POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **THOMAS O. MCCLELLAN**, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Judith A. WALKER, Timothy HAUSMANN, Patrick A. MCKENNA, Brooke L. PARKER and Elizabeth MOSCA**, all of Madison, Wisconsin, EACH its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings**, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.


The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

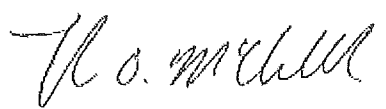
IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 24th day of August, A.D. 2015.

ATTEST:

**ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND**



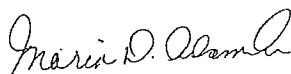
By:   
Secretary  
Michael McKibben

  
Vice President  
Thomas O. McClellan

State of Maryland  
County of Baltimore

On this 24th day of August, A.D. 2015, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **THOMAS O. MCCLELLAN**, Vice President, and **MICHAEL MCKIBBEN**, Secretary, of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, depose and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.



Maria D. Adamski, Notary Public  
My Commission Expires: July 8, 2019



## EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify or revoke any such appointment or authority at any time."

### CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 16 day of November, 2015.



Michael Bond, Vice President



## SECTION H: AGREEMENT

THIS AGREEMENT made this 17 day of JANUARY in the year Two Thousand and Eighteen between **SPEEDWAY SAND & GRAVEL, INC.**, hereinafter called the Contractor, and the City of Madison, Wisconsin, hereinafter called the City.

WHEREAS, the Common Council of the said City of Madison under the provisions of a resolution adopted **JANUARY 16, 2018**, and by virtue of authority vested in the said Council, has awarded to the Contractor the work of performing certain construction.

NOW, THEREFORE, the Contractor and the City, for the consideration hereinafter named, agree as follows:

1. **Scope of Work.** The Contractor shall, perform the construction, execution and completion of the following listed complete work or improvement in full compliance with the Plans, Specifications, Standard Specifications, Supplemental Specifications, Special Provisions and contract; perform all items of work covered or stipulated in the proposal; perform all altered or extra work; and shall furnish, unless otherwise provided in the contract, all materials, implements, machinery, equipment, tools, supplies, transportation, and labor necessary to the prosecution and completion of the work or improvements:

### MONROE STREET CONTRACT NO. 7974

2. **Completion Date/Contract Time.** Construction work must begin within seven (7) calendar days after the date appearing on mailed written notice to do so shall have been sent to the Contractor and shall be carried on at a rate so as to secure full completion SEE SPECIAL PROVISIONS, the rate of progress and the time of completion being essential conditions of this Agreement.
3. **Contract Price.** The City shall pay to the Contractor at the times, in the manner and on the conditions set forth in said specifications, the sum of **EIGHTEEN MILLION SIX HUNDRED FIFTY THOUSAND SEVEN HUNDRED FIFTY-THREE AND 41/100 (\$18,650,753.41)** Dollars being the amount bid by such Contractor and which was awarded to him/her as provided by law.
4. **Affirmative Action.** In the performance of the services under this Agreement the Contractor agrees not to discriminate against any employee or applicant because of race, religion, marital status, age, color, sex, disability, national origin or ancestry, income level or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, gender identity, political beliefs, or student status. The Contractor further agrees not to discriminate against any subcontractor or person who offers to subcontract on this contract because of race, religion, color, age, disability, sex, sexual orientation, gender identity or national origin.

The Contractor agrees that within thirty (30) days after the effective date of this agreement, the Contractor will provide to the City Affirmative Action Division certain workforce utilization statistics, using a form to be furnished by the City.

If the contract is still in effect, or if the City enters into a new agreement with the Contractor, within one year after the date on which the form was required to be provided, the Contractor will provide updated workforce information using a second form, also to be furnished by the City. The second form will be submitted to the City Affirmative Action Division no later than one year after the date on which the first form was required to be provided.

The Contractor further agrees that, for at least twelve (12) months after the effective date of this contract, it will notify the City Affirmative Action Division of each of its job openings at facilities in Dane County for which applicants not already employees of the Contractor are to be considered. The notice will include a job description, classification, qualifications and application procedures

and deadlines. The Contractor agrees to interview and consider candidates referred by the Affirmative Action Division if the candidate meets the minimum qualification standards established by the Contractor, and if the referral is timely. A referral is timely if it is received by the Contractor on or before the date started in the notice.

#### Articles of Agreement Article I

The Contractor shall take affirmative action in accordance with the provisions of this contract to insure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin and that the employer shall provide harassment free work environment for the realization of the potential of each employee. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training including apprenticeship insofar as it is within the control of the Contractor. The Contractor agrees to post in conspicuous places available to employees and applicants notices to be provided by the City setting out the provisions of the nondiscrimination clauses in this contract.

#### Article II

The Contractor shall in all solicitations or advertisements for employees placed by or on behalf of the Contractors state that all qualified or qualifiable applicants will be employed without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin.

#### Article III

The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice to be provided by the City advising the labor union or worker's representative of the Contractor's equal employment opportunity and affirmative action commitments. Such notices shall be posted in conspicuous places available to employees and applicants for employment.

#### Article V

The Contractor agrees that it will comply with all provisions of the Affirmative Action Ordinance of the City of Madison, including the contract compliance requirements. The Contractor agrees to submit the model affirmative action plan for public works contractors in a form approved by the Affirmative Action Division Manager.

#### Article VI

The Contractor will maintain records as required by Section 39.02(9)(f) of the Madison General Ordinances and will provide the City Affirmative Action Division with access to such records and to persons who have relevant and necessary information, as provided in Section 39.02(9)(f). The City agrees to keep all such records confidential, except to the extent that public inspection is required by law.

#### Article VII

In the event of the Contractor's or subcontractor's failure to comply with the Equal Employment Opportunity and Affirmative Action Provisions of this contract or Section 39.03 and 39.02 of the Madison General Ordinances, it is agreed that the City at its option may do any or all of the following:

1. Cancel, terminate or suspend this Contract in whole or in part.

2. Declare the Contractor ineligible for further City contracts until the Affirmative Action requirements are met.
3. Recover on behalf of the City from the prime Contractor 0.5 percent of the contract award price for each week that such party fails or refuses to comply, in the nature of liquidated damages, but not to exceed a total of five percent (5%) of the contract price, or five thousand dollars (\$5,000), whichever is less. Under public works contracts, if a subcontractor is in noncompliance, the City may recover liquidated damages from the prime Contractor in the manner described above. The preceding sentence shall not be construed to prohibit a prime Contractor from recovering the amount of such damage from the non-complying subcontractor.

#### Article VIII

The Contractor shall include the above provisions of this contract in every subcontract so that such provisions will be binding upon each subcontractor. The Contractor shall take such action with respect to any subcontractor as necessary to enforce such provisions, including sanctions provided for noncompliance.

#### Article IX

The Contractor shall allow the maximum feasible opportunity to small business enterprises to compete for any subcontracts entered into pursuant to this contract. (In federally funded contracts the terms "DBE, MBE and WBE" shall be substituted for the term "small business" in this Article.)

5. Substance Abuse Prevention Program Required. Prior to commencing work on the Contract, the Contractor, and any Subcontractor, shall have in place a written program for the prevention of substance abuse among its employees as required under Wis. Stat. Sec. 103.503.
6. **Contractor Hiring Practices.**

##### **Ban the Box - Arrest and Criminal Background Checks. (Sec. 39.08, MGO)**

This provision applies to all prime contractors on contracts entered into on or after January 1, 2016, and all subcontractors who are required to meet prequalification requirements under MGO 33.07(7)(l), MGO as of the first time they seek or renew pre-qualification status on or after January 1, 2016. The City will monitor compliance of subcontractors through the pre-qualification process.

- a. **Definitions.** For purposes of this section, "Arrest and Conviction Record" includes, but is not limited to, information indicating that a person has been questioned, apprehended, taken into custody or detention, held for investigation, arrested, charged with, indicted or tried for any felony, misdemeanor or other offense pursuant to any law enforcement or military authority.

"Conviction record" includes, but is not limited to, information indicating that a person has been convicted of a felony, misdemeanor or other offense, placed on probation, fined, imprisoned or paroled pursuant to any law enforcement or military authority.

"Background Check" means the process of checking an applicant's arrest and conviction record, through any means.

- b. **Requirements.** For the duration of this Contract, the Contractor shall:

1. Remove from all job application forms any questions, check boxes, or other inquiries regarding an applicant's arrest and conviction record, as defined herein.

2. Refrain from asking an applicant in any manner about their arrest or conviction record until after conditional offer of employment is made to the applicant in question.
3. Refrain from conducting a formal or informal background check or making any other inquiry using any privately or publicly available means of obtaining the arrest or conviction record of an applicant until after a conditional offer of employment is made to the applicant in question.
4. Make information about this ordinance available to applicants and existing employees, and post notices in prominent locations at the workplace with information about the ordinance and complaint procedure using language provided by the City.
5. Comply with all other provisions of Sec. 39.08, MGO.

**c. Exemptions:** This section shall not apply when:

1. Hiring for a position where certain convictions or violations are a bar to employment in that position under applicable law, or
2. Hiring a position for which information about criminal or arrest record, or a background check is required by law to be performed at a time or in a manner that would otherwise be prohibited by this ordinance, including a licensed trade or profession where the licensing authority explicitly authorizes or requires the inquiry in question.

To be exempt, Contractor has the burden of demonstrating that there is an applicable law or regulation that requires the hiring practice in question, if so, the contractor is exempt from all of the requirements of this ordinance for the position(s) in question.

**MONROE STREET  
CONTRACT NO. 7974**

IN WITNESS WHEREOF, the Contractor has hereunto set his/her hand and seal and the City has caused these presents to be sealed with its corporate seal and to be subscribed by its Mayor and City Clerk the day and year first above written.

Countersigned:

**SPEEDWAY SAND & GRAVEL, INC.**

Company Name

Dustin B. [Signature]  
Witness

1/17/18

Date

VPresident

1/17/18

Date

[Signature]  
Witness

1/17/18

Date

Janice Ryan  
Secretary

1/17/18

Date

CITY OF MADISON, WISCONSIN

Provisions have been made to pay the liability that will accrue under this contract.

Approved as to form:

[Signature]  
Finance Director

[Signature]  
City Attorney

Signed this 31<sup>st</sup> day of January, 2018

[Signature]  
Witness

[Signature] 31 January 2018  
Mayor Date

[Signature]  
Witness

Maribeth Witzel-Behl 1-24-18  
City Clerk Date

**SECTION I: PAYMENT AND PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS, that we SPEEDWAY SAND & GRAVEL, INC. as principal, and Fidelity and Deposit Company of Maryland Company of Maryland as surety, are held and firmly bound unto the City of Madison, Wisconsin, in the sum EIGHTEEN MILLION SIX HUNDRED FIFTY THOUSAND SEVEN HUNDRED FIFTY-THREE AND 41/100 (\$18,650,753.41) Dollars, lawful money of the United States, for the payment of which sum to the City of Madison, we hereby bind ourselves and our respective executors and administrators firmly by these presents.

The condition of this Bond is such that if the above bounden shall on his/her part fully and faithfully perform all of the terms of the Contract entered into between him/herself and the City of Madison for the construction of:

**MONROE STREET  
CONTRACT NO. 7974**

in Madison, Wisconsin, and shall pay all claims for labor performed and material furnished in the prosecution of said work, and save the City harmless from all claims for damages because of negligence in the prosecution of said work, and shall save harmless the said City from all claims for compensation (under Chapter 102, Wisconsin Statutes) of employees and employees of subcontractor, then this Bond is to be void, otherwise of full force, virtue and effect.

Signed and sealed this 17 day of January, 2018

Countersigned:

SPEEDWAY SAND & GRAVEL, INC.

Company Name (Principal)

Dustin Beth

Witness

V. President

Seal  
NA

Janice Ryan

Secretary

Approved as to form:

Fidelity and Deposit Company of Maryland

Surety

Seal

☒ Salary Employee ☐ Commission

By

Elizabeth Mosca  
Attorney-in-Fact, Elizabeth Mosca

Neil P. Ryan

City Attorney

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under National Producer Number 12305256 for the year 2018, and appointed as attorney-in-fact with authority to execute this payment and performance bond which power of attorney has not been revoked.

January 17, 2018

Date

Elizabeth Mosca  
Agent Signature

**ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND  
POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **GERALD F. HALEY, Vice President**, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Judith A. WALKER, Timothy HAUSMANN, Patrick A. MCKENNA, Brooke L. PARKER and Elizabeth MOSCA, all of Madison, Wisconsin, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings**, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.


The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

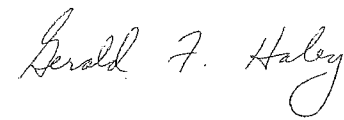
IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 11th day of April, A.D. 2017.

**ATTEST:**

**ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND**



By:   
Secretary  
Michael McKibben

  
Vice President  
Gerald F. Haley

State of Maryland  
County of Baltimore

On this 11th day of April, A.D. 2017, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **GERALD F. HALEY, Vice President, and MICHAEL MCKIBBEN, Secretary**, of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, depose and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Constance A. Dunn

Constance A. Dunn, Notary Public  
My Commission Expires: July 9, 2019





## EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify or revoke any such appointment or authority at any time."

### CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies,  
this 17 day of January, 2018.



Michael Bond, Vice President

**TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT ALL REQUIRED INFORMATION TO:**

Zurich American Insurance Co.  
Attn: Surety Claims  
1299 Zurich Way  
Schaumburg, IL 60196-1056